KSS 2504
KSS 3204
KSS 4504
KSS 6004

Dimplex

Split Air Conditioner for Wall Mounting

Installation and Operating Instructions

453322.66.11 06/07/B

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General Safety Requirements

- Please read these installation and operating instructions carefully and fully **before** commencing installation**!** They contain important information about assembly, use and maintenance as well as the safety instructions to be observed!

- After unpacking it, please inspect the device for any damage. In case of doubt, do not put the device into use but have it examined by a qualified technician.
- Before connecting the device, please ensure that the mains supply network corresponds to that required by the device according to the type plate data (observe your utility company's local connection conditions).
- The device must not be operated in rooms where highly inflammable substances are used (e.g. solvents, etc.).
- The device must be unplugged from the mains before any cleaning or maintenance work is carried out.
- This device may be used only for the purpose for which it was made, i.e. for heating, cooling, dehumidification and air recirculation. All other purposes are not those for which it was intended and must therefore be regarded as hazardous.
- In the case of a fault and / or functional defect, please switch the device off (disconnect from the mains). Do not try to repair the device yourself. Necessary repairs must be carried out by the after-sales service.
- The power supply cable may be replaced only by a qualified electrician.
- **The manufacturer is not liable for damage caused by improper or incorrect use or the incorrect installation of the device.**

Device-Specific Safety Regulations

- The device must be installed according to the manufacturer's specifications. Incorrect installation can cause injury to persons or animals and damage to property.
- Where possible, the outdoor unit is to be installed in such a way that it is not exposed to direct sunlight.
- The inlet and outlet vents of the room air conditioner must not be covered or closed.
- No objects may be pushed into the air inlet and outlet vents.
- Disconnect the air conditioner from the power supply if it is out of use for some time.
- The air conditioner should be inspected at regular intervals (e.g. before the cooling season).
- The condensation which collects in or runs out of the air conditioner should not be drunk.
- Do not operate the room air conditioner without an air filter.
- The air filters should be cleaned at regular intervals (depending on user and room).
- Do not place any objects on the room air conditioner.
- The indoor unit of the room air conditioner may be operated in dry rooms only.
- Do not pour or spray any liquids into or onto the room air conditioner.
- Do not use hairsprays, solvents etc (e.g. aerosols) in the vicinity of the air conditioner.
- The air conditioner should be switched off immediately in the case of a fault (e.g. if smoke is created or an unusual smell is noticed). Disconnect the device from the power supply (switch off the fuse or pull out the plug) and contact an authorized after-sales service.
- Keep persons, particularly small children, pets and plants away from the direct air flow, it could damage their health or general condition.
- The device may be assembled and disassembled by a qualified technician only.

Check List

- Has a calculation of the cooling load been made?
- Is the cooling capacity of the device sufficient for the room to be cooled?
- Are the operating limits sufficient for the purpose for which the air conditioner is intended?
- Are the walls or the foundation for the installation of the outdoor unit strong enough?
- The indoor unit should be installed in a position where it ensures uniform cooling.
- Minimum clearances must be observed.
- Planning the installation of the outdoor unit.

  → Consider noise emission and free air circulation, avoid direct sunlight, ensure unimpeded access to the unit; the unit should be installed in a place to which the public does not have access.
- Is a wall bracket required for the outdoor unit?
- Plan the power cable and connection, ensure adequate fuses.
- Check the maximum length and feasibility of the refrigerant pipes.

  → Refrigerant pipes should be as straight and short as possible.
- When laying refrigerant pipes it is essential to maintain a bend radius of 3.5 x diameter.
- Excess piping should be wound up at a downward angle to the outdoor unit in order to avoid residues of refrigerant oil.
- Take account of differences in height between the room unit and the outdoor unit; if the outdoor unit is higher than the room unit then one or more oil siphons should be provided as necessary.
- Plan condensation drainage.

  → If the condensation pipe cannot be laid with a downward slope, the room unit must be provided with a condensation pump.

  → Condensation is always formed on the “cold” side of the air-conditioning plant, i.e. for cooling in the room unit and for heating in the outdoor unit.
- Do you require permission from the local utility company?

Technical Data

Split room air conditioners with rapid refrigerant coupling Indoor unit Outdoor unit		**KSS 2504 AB** **KSS 2504 A** KSS 2504AI KSS 2504AA	**KSS 3204 AB** **KSS 3204 A** KSS 3204AI KSS 3204AA
Cooling capacity / heat output [1]	kW	2.5 / 2.8	3.2 / 3.5
Air volume, indoor unit	m³/h	420	460
Connection voltage		1/N/PE ~230 V	
Nominal power consumption for cooling / heating	kW	0.79 / 0.97	1.09 / 1.24
Sound power level, outdoor / indoor unit (approx.)	dB(A)	52 / 36	55 / 39
Refrigerant		R 410A	
Net weight outdoor / indoor unit	kg	32 / 8.5	32 / 8.5
Dimensions, outdoor unit (W x H x D)	mm	848 x 540 x 260	848 x 540 x 260
Dimensions, indoor unit (W x H x D)	mm	770 x 250 x 180	770 x 250 x 180
Difference in height between device units, maximum	M	10	
Length of refrigerant pipe, maximum	M	20	
Temperature range, cooling Indoor unit (adjustable range) Outdoor unit (fixed-setpoint conditions)		Upper operating limit +30 °C / lower operating limit + 16 °C Upper operating limit +43 °C / lower operating limit -5 °C	
Temperature range, heating Indoor unit (adjustable range) Outdoor unit (fixed-setpoint conditions)		Upper operating limit +30 °C / lower operating limit +16 °C Upper operating limit +43 °C / lower operating limit -7 °C	
Electrical connection lines			
Mains cable (dimension / length) Control line (dimension / length)	mm² mm²	3 x 1.0 / 5.2 m 2 x 0.75 / 6.0 m	3 x 1.5 / 5.2 m 2 x 0.75 / 6.0 m
Energy efficiency class [3]		A	B
Coefficients of performance (cooling / heating) [4]		3.2 / 2.9	3.0 / 2.8

Refrigerant pipe accessories [3] (essential) consisting of a suction and pressure pipe, insulated and pre-filled with refrigerant		
Pre-filled refrigerant pipes, length 2.5 m	**KMSL 1438A-2**	**KMSL 1412A-2**
Pre-filled refrigerant pipes, length 5.0 m	**KMSL 1438A-5**	**KMSL 1412A-5**

Split room air conditioners for wall mounting **with flanged connections, not for use with KMSL refrigerant pipes** (technical data see above)			
Indoor unit		KSS 2504A IB	KSS 3204A IB
Outdoor unit		KSS 2504A AB	KSS 3204A AB
Pipe for liquid	mm	∅ 6 x 1	∅ 6 x 1
Suction gas pipe	mm	∅ 10 x 1	∅ 12 x 1
Split pipes max. length / max. height	m	20 / 10	20 / 10

Special accessories comprising 2 brackets for wall mounting of outdoor unit		
Wall bracket	**WKS 357**	**WKS 357**
Condensation pump	**KSI 3100**	**KSI 3100**

1) Nominal data acc. to ISO 5151

2) Refrigerant pipes may be joined to extend them. The maximum permitted length of pipe must be observed.

3) In compliance with 92/75/EC, Directive 2002/31/EC

4) Acc. to EN 14511

Split room air conditioners with rapid refrigerant coupling Indoor unit Outdoor unit		**KSS 4504 CB** **KSS 4504 C** KSS 4504CI KSS 4504CA	**KSS 6004 CB** **KSS 6004 C** KSS 6004CI KSS 6004CA
Cooling capacity / heat output [1]	kW	4.5 / 5.2	6.0 / 6.5
Air volumes, indoor unit	m³/h	700	720
Connection voltage		1/N/PE ~230 V	
Nominal power consumption for cooling / heating	kW	1.75/ 1.75	2.30 / 2.30
Sound power level, outdoor / indoor unit (approx.)	dB(A)	58 / 46	59 / 48
Refrigerant		R 407C	
Net weight outdoor / indoor unit	kg	58 / 12	59 / 12
Dimensions, outdoor unit (W x H x D)	mm	950 x 700 x 412	950 x 700 x 412
Dimensions, indoor unit (W x H x D)	mm	907 x 290 x 195	907 x 290 x 195
Difference in height between device units, maximum	m	10	
Length of refrigerant pipe, maximum	m	20	
Temperature range, cooling Indoor unit (adjustable range) Outdoor unit (fixed-setpoint conditions)		 Upper operating limit +30 °C / lower operating limit +16 °C Upper operating limit +43 °C / lower operating limit 0 °C	
Temperature range, heating Indoor unit (adjustable range) Outdoor unit (fixed-setpoint conditions)		 Upper operating limit +30 °C / lower operating limit +16 °C Upper operating limit +43 °C / lower operating limit -7 °C	
Electrical connection lines			
Mains cable (dimension / length)	mm²	4 x 2.5 / 5.2 m	4 x 2.5 / 5.2 m
Control line (dimension / length)	mm²	5 x 1.0 / 6.8 m	5 x 1.0 / 6.8 m
Energy efficiency class [3]		D	D
Coefficients of performance (cooling/heating) [4]		2.57 / 2.97	2.6 / 2.8

Refrigerant pipe accessories [3] (essential) consisting of a suction and pressure pipe, insulated and pre-filled with refrigerant		
Pre-filled refrigerant pipe, length 2.5 m	**KMSL 3858-2**	**KMSL 3858-2**
Pre-filled refrigerant pipe, length 5.0 m	**KMSL 3858-2**	**KMSL 3858-2**

Split room air conditioners for wall mounting with flanged connections, not for use with KMSL refrigerant pipes (technical data see above)			
Indoor unit		KSS 4504C IB	KSS 6004C IB
Outdoor unit		KSS 4504C AB	KSS 6004C AB
Pipe for liquid	mm	∅ 10 x 1	∅ 10 x 1
Suction gas pipe	mm	∅ 16 x 1	∅ 16 x 1
Split pipes max. length / max. height	m	20 / 10	20 / 10

Special accessories comprising 2 brackets for wall mounting of outdoor unit		
Wall bracket	**WKS 357**	**WKS 357**
Condensation pump	**KSI 3100**	**KSI 3100**

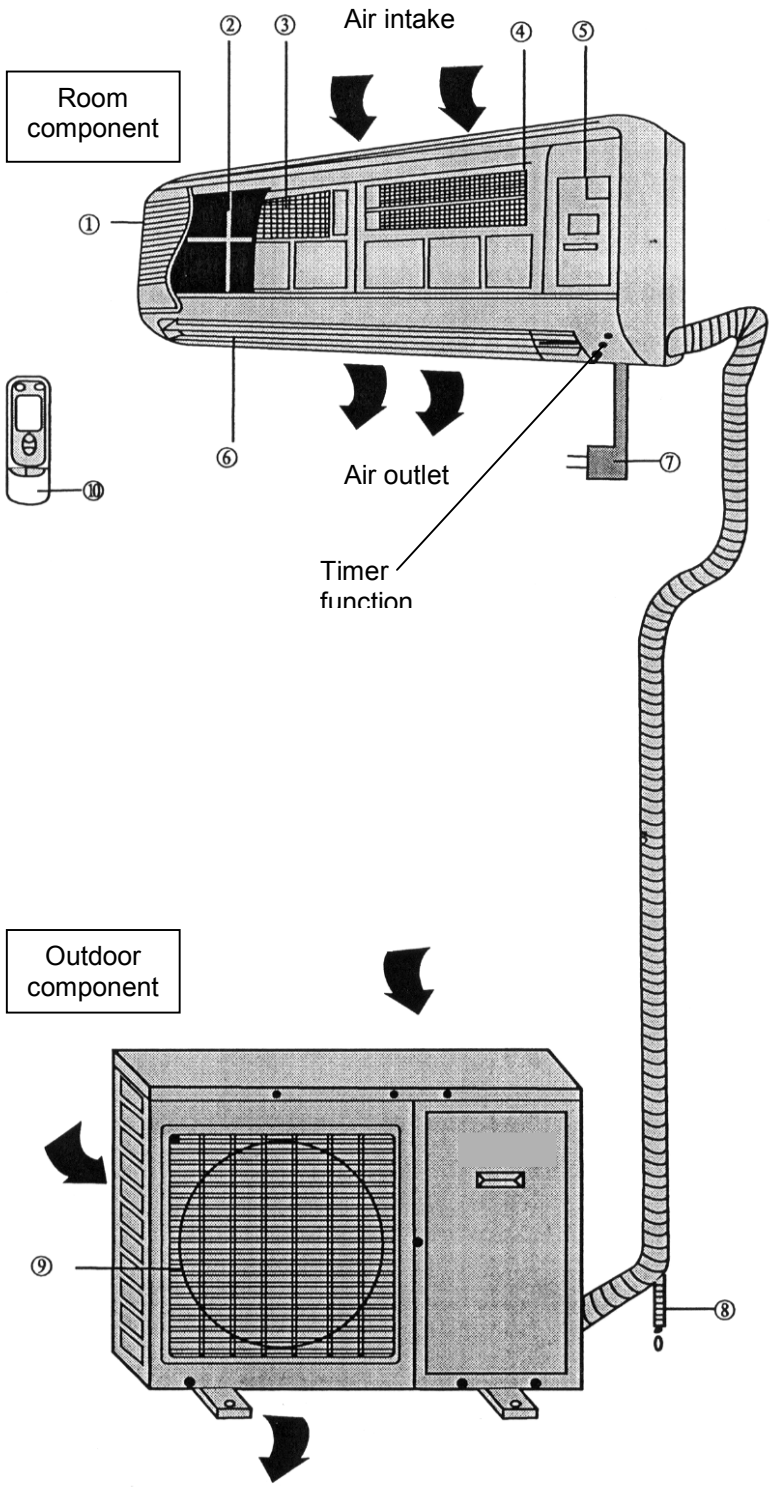
1) Nominal data acc. to ISO 5151

2) Refrigerant pipes may be joined to extend them. The maximum permitted length of pipe must be observed.

3) In compliance with 92/75/EC, Directive 2002/31/EC

4) Acc. to EN 14511

Device Construction



(1) Casing flap

(2) Air filter

(3) Air filter Element A (option only)

(4) Air filter Element B (option only)

(5) Cover

(6) Airflow fins

(7) Connection cable

(8) Condensation drain

(9) Air outlet grid

(10) Remote control

Installation Notes for Split Air Conditioners

Before choosing a room air conditioner, we recommend carrying out a cooling load calculation according to the standard, or on the basis of a relevant standard. Forms for cooling load calculation complete with instructions can be obtained from the manufacturer or wholesaler or in the Internet at www.dimplex.de.

Note: Indoor or outdoor units which are not installed according to instructions may cause a reduction or loss of warranty in the case of repair.

Choosing the installation location
It is very important to install split devices in suitable locations, as it is difficult, and thus expensive, to move them after installation. If possible, decide on the installation location in agreement with the final customer. The installation must be suitable for bearing the weight and the operational vibration of the indoor or outdoor unit on a permanent basis.

Notes on the installation of the indoor unit
- The circulating air should flow through the whole of the room to be cooled.
- The flow of cold air should not be directed at persons or their place of work.
- The condensation formed during cooling must be drained off without impairing functioning. If condensation can only be led off upwards or without a downward slope, then the installation of a condensation pump is necessary.
- The unit may not be installed in rooms subject to high humidity in which the device is in contact with moisture or water.
- The device may not be installed in rooms in which oil vapour is emitted or could be emitted.

Notes on the installation of the outdoor unit
- The outdoor unit should be installed in a place where it will not become soiled.
- When there is a danger of condensation freezing (heating operation when outside temperatures are low), the condensate drain stubs should be removed and additional insulation be provided for the drainage area. Freezing condensation (e.g. the formation of ice on the heat exchanger) can impede the fan function of the outdoor unit.
- The outdoor unit must be installed in compliance with the regulations regarding the assessment of operational noise in the neighbourhood. In particular, a suitable distance from bedrooms and similar rooms should be maintained.
- The device may not be installed in areas of aggressive air!

Scope of supply
Please check that the delivery is complete and that the devices are undamaged.
The scope of supply includes:

1. Split air conditioner consisting of an indoor and an outdoor unit (two VPE - for a complete order)
2. Mounting plate for wall mounting of the indoor unit, slotted into it (incl. screws)
3. Remote control (incl. 2 batteries)
4. Condensation drain plug for draining condensation in the outdoor unit
5. Assembly and operating instructions
6. Length of insulating tube (approx. 250 mm x diam. ¡20 mm)
7. Control line with connection plug and a connection cable to the power supply (see Technical Data)
8. Sealant (in box – for sealing the wall around the pipes)

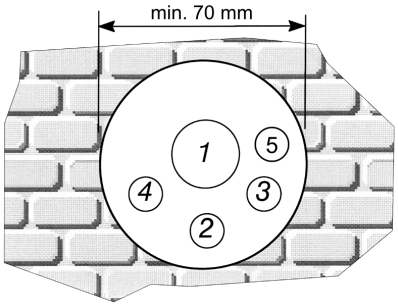
Assembling the Indoor Unit

Mounting plate:

The mounting plate for the indoor unit must be positioned horizontally and attached firmly. Minimum clearances must be observed. Please use the screws provided.

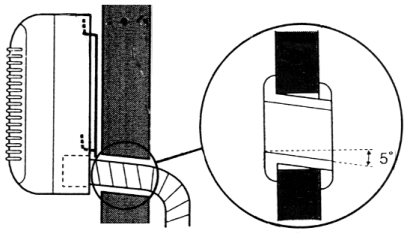
Wall opening:

One opening in the wall with a **minimum diameter of 70 mm** is necessary for the passage of the condensation pipe and the refrigerant and electrical leads from the indoor unit to the outdoor unit (for adapted refrigerant connection pipes for the indoor unit or for KSS split pipes) A smaller opening, approx. diam. 55 mm, may be sufficient for non-adapted devices [without refrigerant couplings]. A sleeve should be placed in the wall opening in order to prevent damage to the pipes (in particular to the insulation of the split pipes)! It is better to pass the refrigerant connection pipes of the indoor unit through the wall than the split pipes themselves as some of these have a larger diameter and are thus difficult to lay in a small space (at the rear of the indoor unit).



1 Insulated suction pipe
2 Pressure pipe
3 Control line
4 Condensation pipe
5 Electric connecting cables (not in diagram)

Important: The opening must slope downward at an angle of about 5° so that the condensation formed during de-humidification and cooling can run away. (The end of the condensation pipe may not be standing in water or be below the water line!)

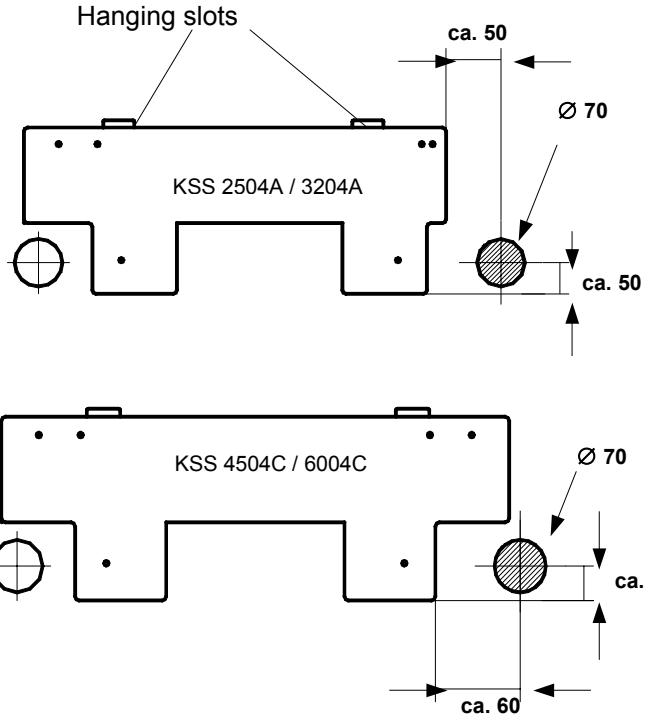


Position for wall opening

The diagram below shows the recommended position for the wall opening in relation to the mounting plate if the pipes are not to be visible in the room after installation.

In combination with **KMSL split pipes only** the position shown on the right, where dimensions are given, is suitable **for the rear**!

If you use your own split leads you may be able to use the position shown on the left (of the mounting plate) in relation to the wall opening.



➔ Please note that the bends in the refrigerant pipes may not be positioned immediately in front of or after the refrigerant couplings or the screw fastenings for the leads!

If it does not matter whether the pipes are visible in the room, they can all be led out of the side of the indoor unit to the left (in the direction of the pipe connections of the indoor unit; the perforated areas in the casing of the indoor unit should be cut out for this) and led through the wall in some other suitable place.

Indoor unit:

Slot the indoor unit into the mounting plate and close the clips provided in the lower part of the casing.

Sealing the wall opening:

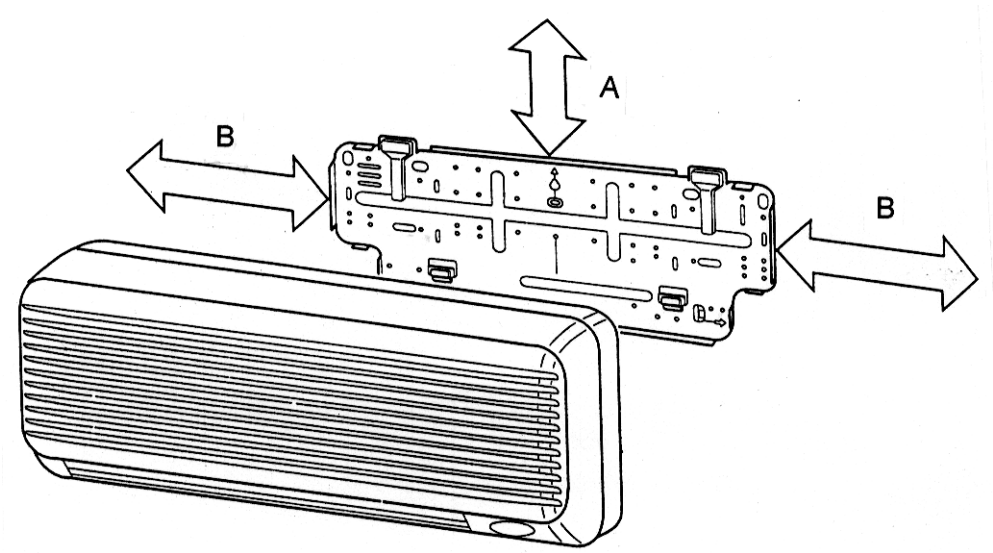
This is not done until the outdoor unit has been installed and all necessary connections between the indoor and the outdoor unit have been made. The wall opening, or the remaining openings in the wall opening sleeve, can be sealed using the sealant provided, using mortar or a mineral fibre plug with a silicone coating. In the case of fire protection walls, the provisions of DIN 4102 must be observed.

Minimum Clearances

Indoor unit

The following minimum clearances (A and B) from walls are essential for the trouble-free operation of the room air conditioner and for servicing and repairs.

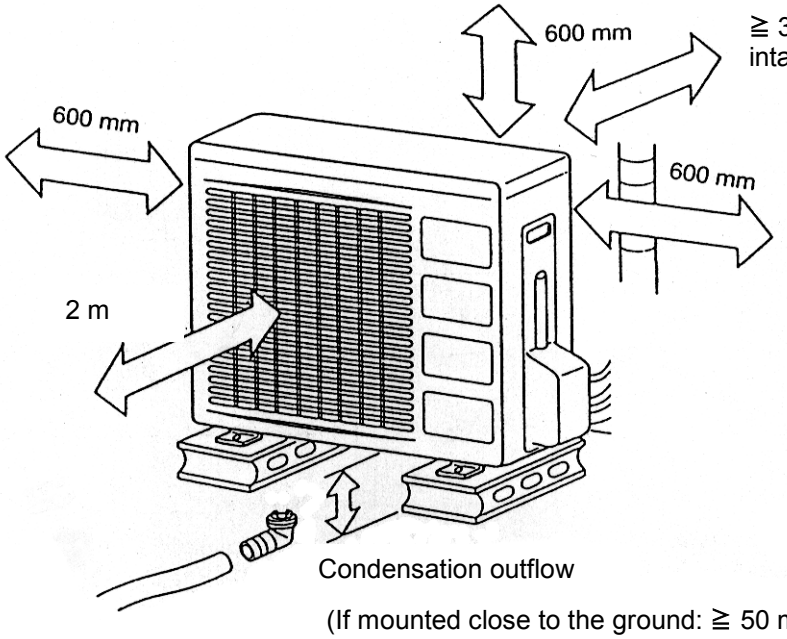
The clearance between the ceiling and the lower edge of the room air conditioner must be at least **2.30 m.**
For device dimensions see Technical Data.



For all devices: **A ≧ 100 mm** **B ≧ 180 mm**

Outdoor unit

Clearance from walls (see Technical Data for device dimensions)



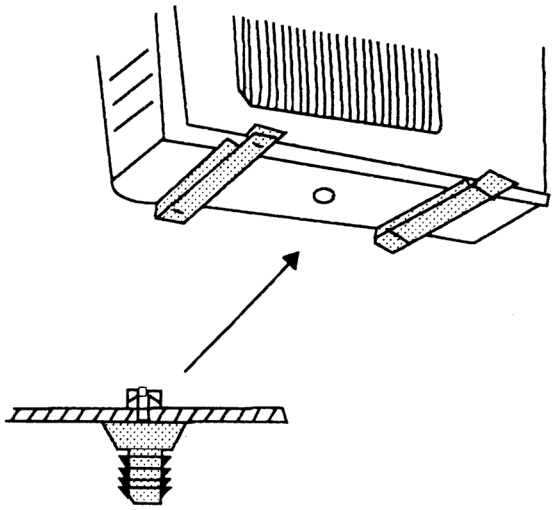
(If mounted close to the ground: ≧ 50 mm + necessary bend radius, if a condensation pipe is used)

Assembling the Outdoor Unit

The outdoor unit should be attached firmly to a suitable surface or a suitable wall of sufficient strength (see also “Wall bracket accessory”).

It should be installed in a place where there is unimpeded air inflow and outflow An air short circuit must be avoided. Please observe minimum clearances and the sound power levels given in the technical data (distances from bedrooms or third-party rooms etc.).

Condensation drainage in the outdoor unit
When the heat pump is in operation, condensation is formed in the outdoor unit, which must be drained off in a manner appropriate to the location.
There is a hole (diam. 25) for condensation drainage in the base plate of the outdoor unit into which the condensation drainage plug supplied is inserted. If the installation location allows it, the condensation formed can simply drip away, otherwise it must be led off through a pipe attached to the drainage plug.

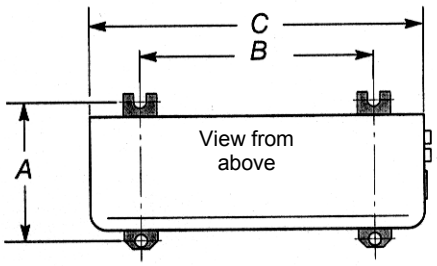


Caution:

During heating operation at temperatures below +4 °C the condensation outlet can freeze up under unfavourable conditions and this can block the condensation fan. If temperatures below +4 °C are to be expected at the condensation outlet during heating operation, appropriate measures, e.g. insulation (insulation of the base of the casing and the condensation drainage area) should be taken, or, if possible, the drainage plug should not be installed. If a condensation pipe is used, it must always slope downwards.

Distances between the drilling holes for mounting the outdoor unit

Type	Dim. A (mm)	Dim. B (mm)	Dim. C (mm)
KSS 2504A/3204A	275	540	848
KSS 4504C	375	572	950
KSS 6004C	375	572	950



Connecting the cooling system for devices with pre-filled refrigerant pipes KMSL... .

The refrigerant pipes of the indoor and outdoor units are pre-filled with refrigerant R407C or R410A.

Please observe the safety regulations for handling CFC (HCFC) in the section “Pre-filled refrigerant pipes KMSL...” when installing the air conditioners and the split pipes.
(see page 12f.)

Split pipes of the KMSL series

Care must be taken to connect the refrigerant pipes correctly. It is particularly important to observe the torques specified (see page 14). Incorrect connection of the split pipes, which can be ordered as accessories, is impossible, because each half of the coupling fits only to its other half in the indoor or outdoor unit.

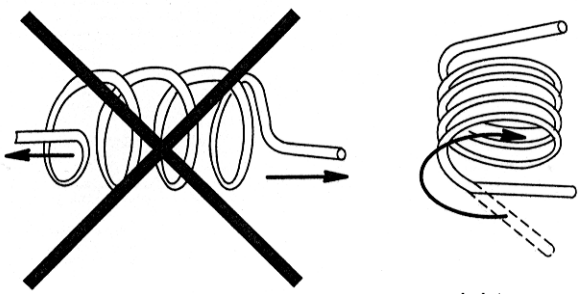
Ready-to-use refrigerant pipes in various lengths are available (see Essential Accessories in “Technical Data”). Excessively long pipes should be avoided when selecting split pipes (loss of cooling capacity). Reductions or extensions to length may be made by the authorised after-sales service only.

Please observe the assembly steps and the notes in the section “Pre-filled refrigerant pipes KMSL” on page 12ff. for installation and the connection of the cooling system.

Connecting the Cooling System

First, unwind the refrigerant pipes carefully to their full length. The pipes may not have more than 3 bends in succession and a total of 12 bends over their entire length.

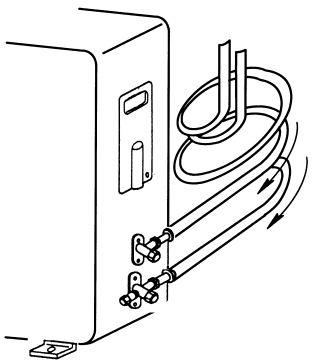
The number of bends should be kept to a minimum.
The radius of the bends must be at least 3.5 times the external diameter. If necessary, a suitable bending device should be used.



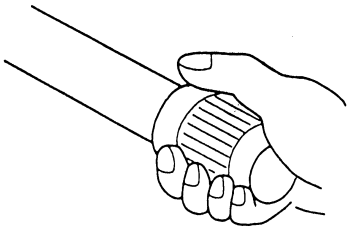
wrong right

Connecting the refrigerant pipes:
See the section “Pre-filled refrigerant pipes KMSL” for this.

Lay the suction and pressure pipes between the indoor and outdoor unit. We recommend laying the thicker suction pipes first, as the thinner pressure pipes are more easily fitted in.
Excess piping should be wound up at a downward angle to the outdoor unit in order to avoid residues of refrigerant oil.



Remove the dust caps and dust plugs from the two halves of the coupling.



The thread of the coupling and the seals should be cleaned with a clean cloth to avoid trapping dust and moisture in the system.

The membranes of the coupling and the rubber seals of the male halves of the couplings should be moistened with a few drops of refrigerant oil.

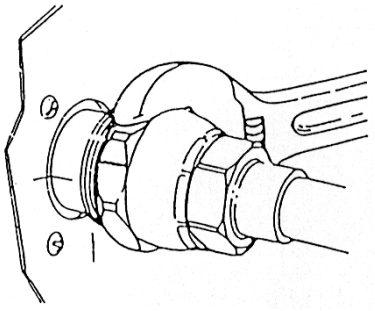
The matching halves of the couplings should be screwed together by hand until the thread is well engaged (or until the inner halves of the coupling membrane meet – turning then becomes much more difficult) and then tightened using a spanner (see **Torques** for refrigerant pipe couplings). A hissing noise during joining is normal.
Caution! When torque is applied, the two halves of the coupling should always be held firm with spanners.
Screw locks should then be applied to stop the connection loosening unintentionally through vibration.

After joining, the coupling connections **must not be opened** (Refrigerant could escape! Repairs must be carried out by an authorised after-sales service only).

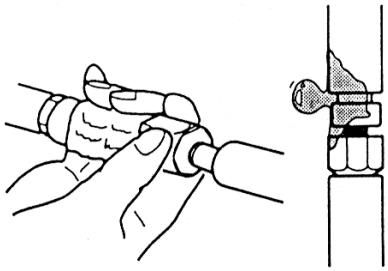
Torques for refrigerant pipe couplings
The necessary torques for the secure (leak-proof) connection of the refrigerant pipe couplings are given below:

Split pipes with refrigerant couplings with 3/8“ and 1/4" UNF threads (spanner values SW 19 und SW 21) ➜ 15 – 20 Nm.

Split pipes with refrigerant couplings with 5/8“ and 1/2" UNF threads (spanner values SW 27 und SW 34) ➜ 47 – 54 Nm.



All refrigerant pipes and connections must be tested for leaks before first use (e.g. using a leak search spray).



Pre-filled Refrigerant Pipes
Order identification

KMSL 1438A-2 KMSL1438A-5 KMSL 3858-2 KMSL 3858-5
KMSL 1412A-2 KMSL1412A-5

Scope of supply

1. Pre-filled suction and pressure pipes (of different lengths depending on type) insulated with flexible foam, provided with refrigerant couplings and pre-filled with refrigerant.
2. Pieces of flexible foam insulation of different lengths (for insulating couplings or the screw connection of the indoor unit).
3. Refrigerant leak detection spray (400 ml can)
4. Notes on assembly

Connecting the cooling system

The refrigerant pipes (suction and pressure pipes) are pre-filled with the refrigerant R410A or R407C. Please observe the relevant ordinances and regulations on the handling of refrigerants.

Excerpt from the "Safety regulations when handling CFC (HCFC) refrigerants"

VBG 20 classifies the refrigerants R410A and R407C as Group 1 refrigerants; they are non-combustible and cause no serious damage to human health. The following must be observed when installing refrigerant pipes:

- The refrigerant should not come into contact with the eyes (if necessary, protective goggles should be worn).
- Refrigerants can cause frostbite in contact with the skin (if necessary, suitable protective clothing, such as gloves, should be worn).
- Contact with naked flames or very hot surfaces can cause the refrigerant to decompose and give off poisonous gases.
- Caution! Do not smoke while connecting or disconnecting refrigerant pipes!
- Do not inhale the refrigerant!
- Refrigerant is heavier than air, if it leaks it collects on the ground.
- In high concentrations it can cause a lack of oxygen. There is a danger of suffocation.

If possible, split pipes should be laid in suitable conduits (e.g. conduits for electrical installations) which allow the pipes to be replaced in the case of replacement or repair. If the split pipes or the room air conditioner are defective and are to be disposed of, this must be done by a suitable specialist company or the authorised after-sales service.

Caution!

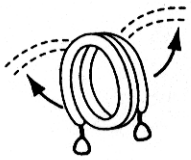
The connections of the room air conditioner are equipped with various self-sealing single couplings. (The connection valve on the outdoor unit of the device has a locking device, the indoor unit does not.) **Care must be taken to ensure that the split pipes are connected using the correct connections.**
Cooling system connections should be made first between the indoor unit and the split pipes and then between the split pipes and the outdoor unit. This order must also be observed if you use your own refrigerant pipes (without couplings)!

The split pipes (gas and liquid pipes or suction and pressure pipes) each have a “male” and a “female” half with a Schrader valve connection.

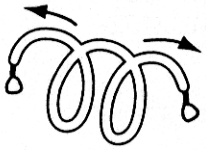
The split pipes cannot be connected incorrectly in combination with the coupling halves already pre-installed in the split devices (provided that the correct split pipes are used), as only one combination of two matching coupling halves is possible. Split pipes of the same size (size of coupling) can be joined together to a maximum length of 20 m.

After connection, these couplings may be separated or disconnected only by a qualified technician or the authorised after-sales service (refrigerant leakage)**!**

Installation instructions:
The refrigerant pipes should first be unrolled carefully against the winding direction to their full length (Do not pull them apart in the axial direction!).



right



wrong

Step 1:
Lay the suction and pressure pipes between the outdoor and indoor units. The pipes may not have more than 3 bends in succession and **a total of not more than 12 bends** over their entire length.
The number of bends should be kept to a minimum. The **radius of the bends** must be at least **3.5 times the external diameter**. The pipes should not be bent more than 3 times in the same place as the material then suffers fatigue and becomes cracked.

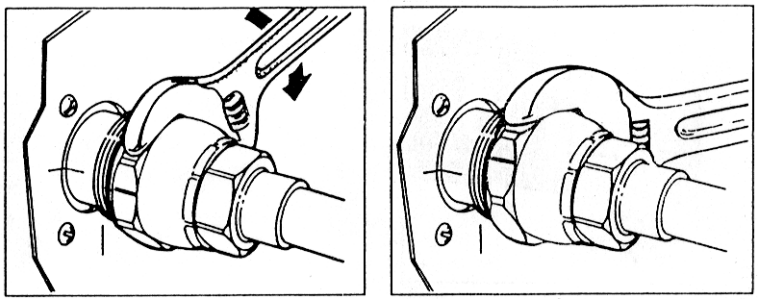
Step 2:
Remove the dust caps and plugs.

Step 3:
If necessary, clean the fitting surfaces of the couplings and the threads with a clean cloth to avoid particles of dust or other foreign bodies entering the system.

Step 4:
Moisten the membranes of the male half of the coupling and the rubber seal with refrigerant oil. In order to ensure that the threads fit together perfectly, first screw the two halves together by hand until the thread has engaged properly or until the two halves of the coupling membrane meet and turning becomes more difficult (the coupling membranes are penetrated at this point).

Step 5:
Now use a spanner to firmly connect the two halves of the coupling (essential to ensure the refrigerant circuit does not leak). Screw locks should then be applied to stop the connection loosening unintentionally through vibration.

The recommended torques for the couplings for the refrigerant pipes are shown below (**It is essential to secure the two halves of the coupling against loosening!).**

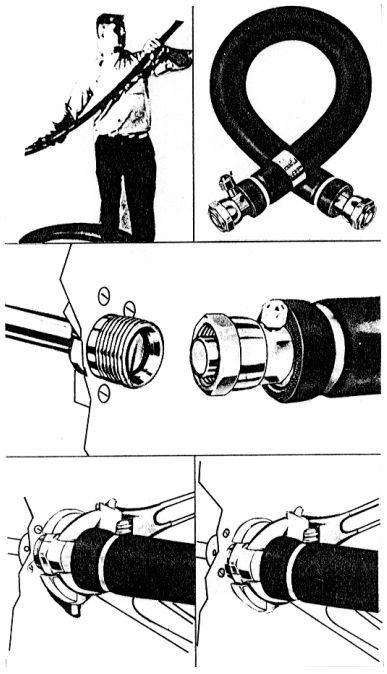


Torques
Split pipes with refrigerant couplings with a 5/8“ UNF thread (spanner values SW 19 and SW 21) ➜ **15 – 20 Nm**.
Split pipes with refrigerant couplings with a 1 1/16“ UNF thread (spanner values SW 27 and SW 34) ➜ **47 – 54 Nm**.
(These torques can be transferred safely only if the other half of the coupling is firmly fixed using a spanner!)

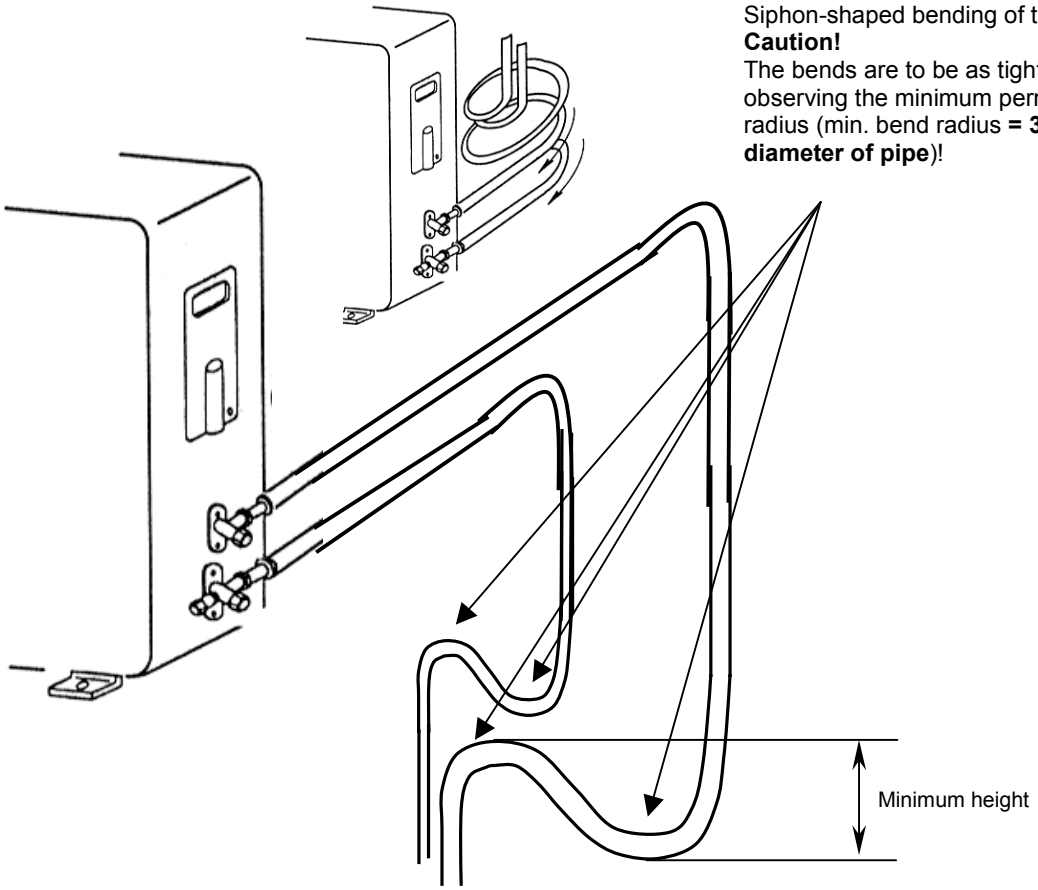
Step 6:
All the cooling system connections made are to be **checked for leaks** using the leak search spray supplied with the split pipes!
The flexible foam insulation (see Scope of Supply) should be wrapped and fixed round each pair of couplings at the indoor unit (use the insulating adhesive tape for this, and if necessary cable connectors as well). Insulation is important, as temperatures fall below the dew point during operation (cooling function) and condensation can be formed.
For longer split pipes, in particular, **we recommend** joining the insulated gas or pressure pipes using insulating or fabric adhesive tape (reduces or prevents the vibration of the split pipes during operation and protects the insulation from UV radiation).

Connection of an additional condensation pipe (if necessary).
An example of how to lay a refrigerant pipe is given below in 3 steps.

1.
2.
3.

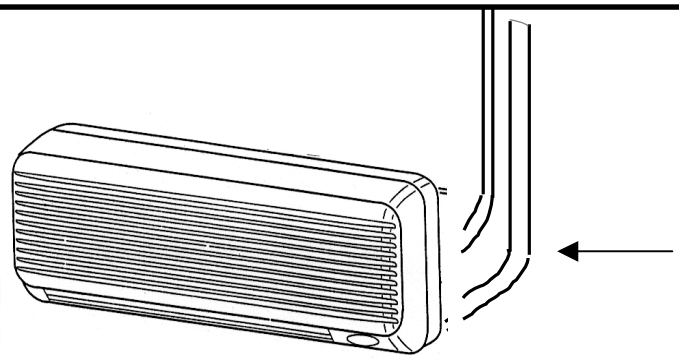


Installation Notes – Laying a Split Pipe



Siphon-shaped bending of the split pipes
Caution!
The bends are to be as tight as possible observing the minimum permissible bend radius (min. bend radius **= 3.5 x outer diameter of pipe**)!

⇨ **When laying split pipes, please note that if the difference in height between the indoor and outdoor components is more than 3 m, the pipes must have a siphon-type bend and a second siphon bend for a further 3 m difference!**



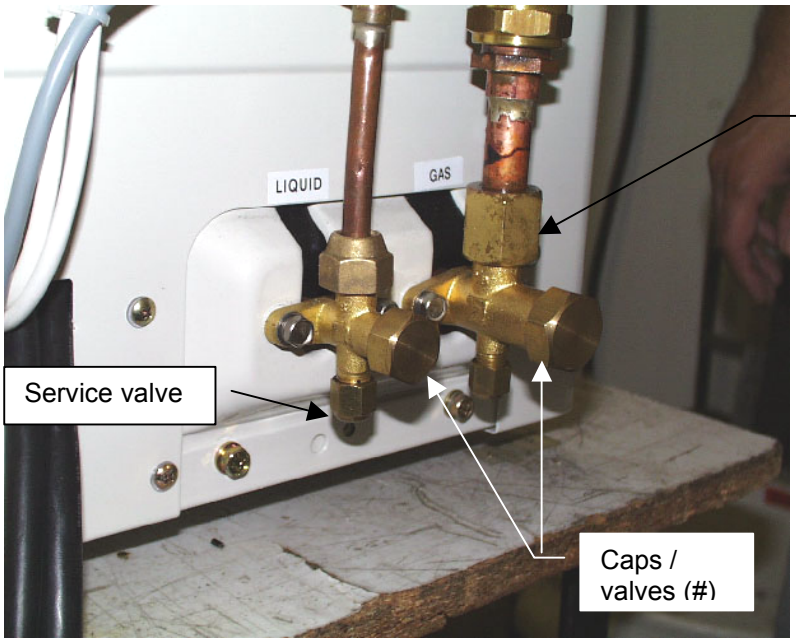
The split pipes can also be led out of the left side of the indoor component (in the direction of the pre-bent connection pipe); the thin areas in the side of the casing must be cut out for this.

➪ Subsequent wrapping of the split pipes with fabric adhesive tape (or aluminium adhesive tape) protects the pipe insulation from damage by UV radiation and mechanical damage (rubbing against masonry, bird bites) and increases the rigidity of the pipes (if they are both wrapped together) – we therefore recommend wrapping the split pipes or laying them in covered conduits!

Step 7:

When the cooling system connection has been completed*, open the valves (#) for the suction and liquid pipes at the outdoor unit. (Remove caps, open valves, screw caps back into place.)

☛ All connections must be tested for leaks before first use!



Cap nut

The valves (#) are opened by turning the valve inserts with a 6-KT spanner (approx. 5 turns up to the limit; a short, audible hissing indicates that the valve has been opened).

* Note on assembly where ready-to-use split pipes are not used

If you use your own copper split pipes, you must ensure that they are the right size. The rules for the safe handling of refrigerants apply here as well.

To make the connections (pipes for liquid and gas), remove the cap nuts on the valves of the outdoor unit and the halves of the couplings of the indoor unit, and place them on the appropriate copper pipe (it may be necessary to slightly enlarge the internal diameter of the nut caps). Crimp the ends of the pipes to the correct size at the correct angle. (Note: For safety reasons, when Cu pipes of ≤ ∅ 6 mm are used in cooling systems, only mechanically crimped pipes are permissible.)

A filling and evacuating device (e.g. a Schrader valve) must be installed in at least one pipe in order to evacuate the split pipes (and the interior of the device). The split pipes should then be properly insulated, correctly laid and connected firmly in their original positions using the nut caps (see the Notes on Torque above). **Do not open** the valves of the outdoor unit yet!

The split pipes and the indoor unit are then to be evacuated correctly using the filling and evacuating device and then filled with refrigerant (depending on the device and the length of the split pipes – see table; the longer the split pipes, the lower the effective cooling capacity – see table). The valves on the outdoor unit can now be opened (see description above).

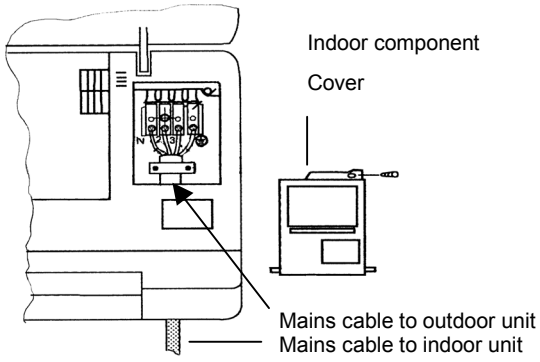
Device type	KSS 2504 / 3204	KSS 4504	KSS 6004
Length of split pipe (m)	**Quantity of refrigerant** R410A / R407C *(g per metre of split pipe)* Refrigerant to be added as of a total split pipe length of 5m		
As of 5 m (length of split pipe)	20 g/m **R410A**	40 g/m **R410A**	40 g/m **R410A**
	Cooling capacity (in %) depending on length of split pipe		
4	100	100	100
7	99	96	97
10	97	94	95
12	95	93	94
16	91	89	90
Max. length of pipe 20	87	87	87

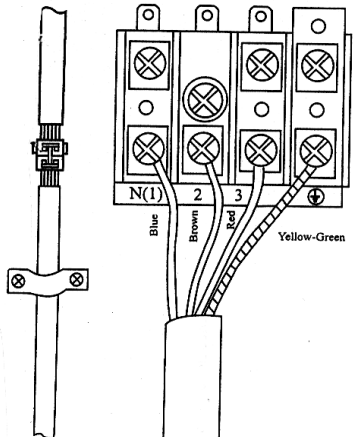
Electrical Connection

The room air conditioners are designed for operation with 230 V AC. The electrical safety of the device is ensured only if it is properly grounded in compliance with current electrical safety regulations. The local utility company's technical connection conditions must be observed. The current circuit must be protected by a separate fuse. See Technical Data for electrical protection.

The room air conditioner may only be connected or repaired by an electrician or refrigeration technician approved by the utility company responsible. Poorly carried out repairs can endanger the safety of the user.
This product complies with the valid safety regulations for electrical devices.

Supply connection
Supply connection is to the indoor unit. The indoor unit has a mains power connection which may have to be extended.
Connecting the indoor and outdoor units
The indoor and outdoor units are connected by the control line and mains cable (must be connected to both units) provided with the device. (See also Technical Data.)
Connecting the mains cable:
Open the plastic cover (ventilation grid) of the indoor unit and remove the cover of the electrical connection. Pull the mains cable from the back of the indoor unit to the electrical connections and connect it as shown in the circuit diagram.
At the outdoor unit, ➜ remove the side cover (KSS 2504A and 3204A) or front cover (KSS 4504C and KSS 6004C) – the main cable is led in from the side here too, through the rectangular opening – (using the rectangular cable feed-through enclosed) – and connect the mains cable according to the circuit diagram.
Connecting the control line:
Connect the cable to the plugs in the outdoor and indoor units.
Use the clamps provided to relieve the strain on all cables!

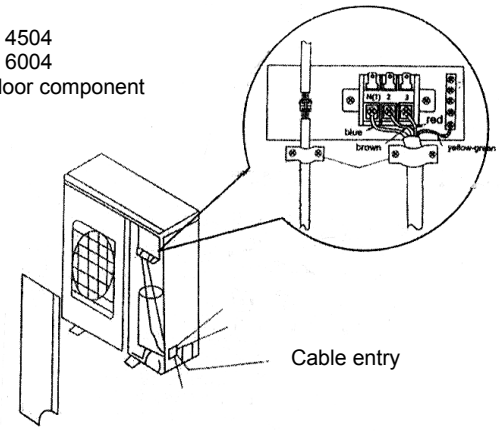




Connection for control line

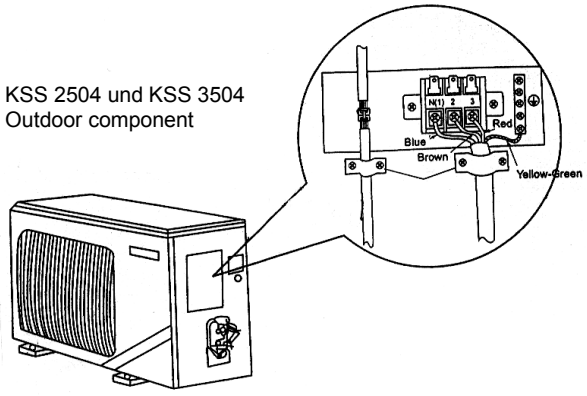
Main cable indoor/ outdoor component

KSS 4504
KSS 6004
Outdoor component



Cable entry

KSS 2504 und KSS 3504
Outdoor component

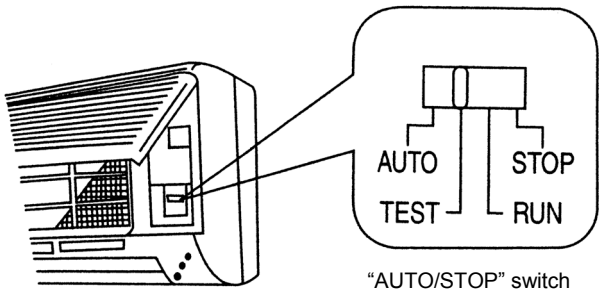


Start-Up – Function Test

Start-Up

Before switching on the power supply or making a test run, check whether:

1. All electrical connections are present and have been ins
(permanent screw connections and plug connections, gro
2. The indoor and outdoor units have been installed in a sec
3. The split pipes have been laid correctly, maximum length
sufficient torque, their insulation is undamaged and the cc
4. The search for refrigerant leaks has been carried out with
5. All installation residues or dirt have been removed from t
have been removed.



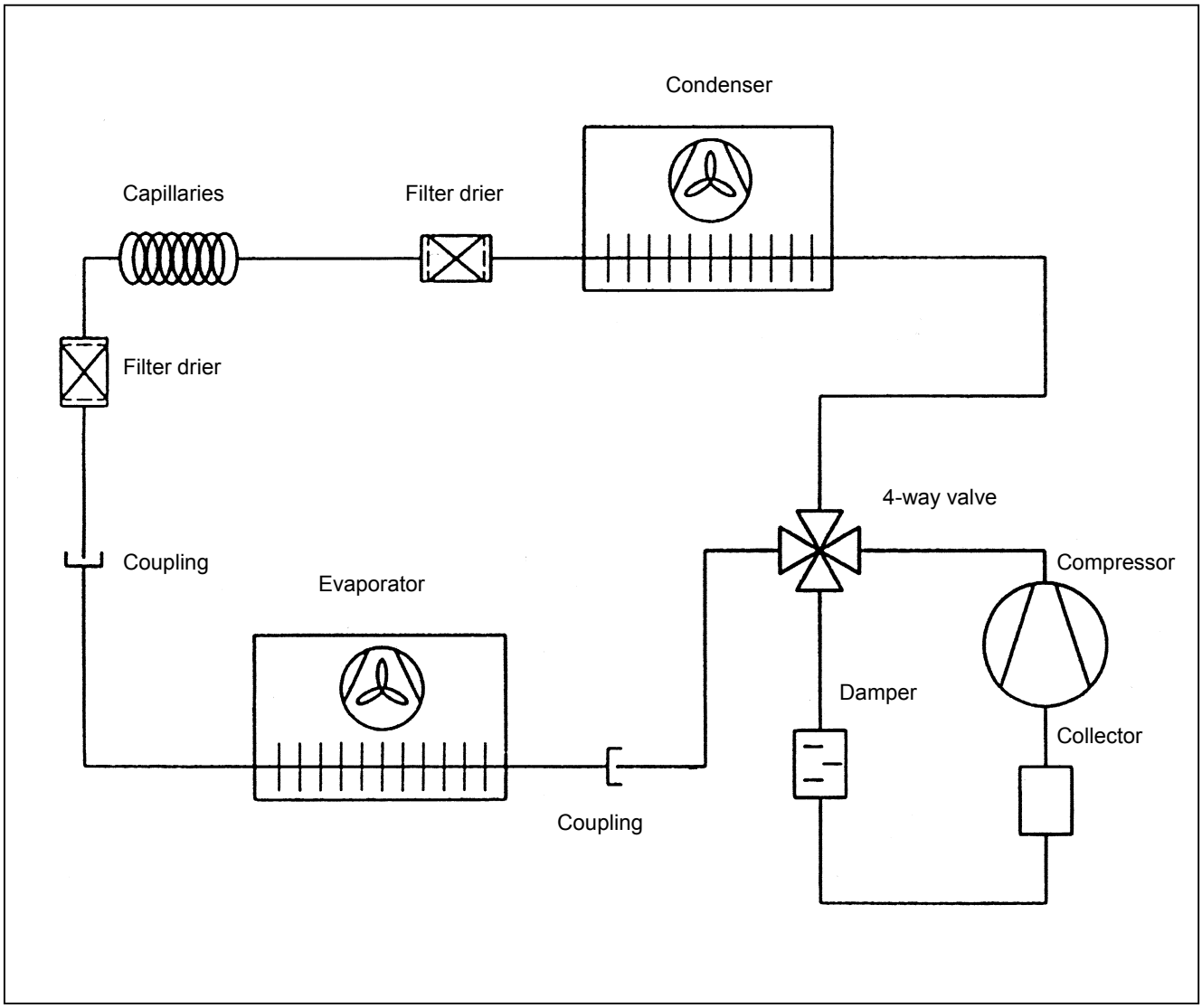
"AUTO/STOP" switch

6. The refrigerant shutoff valves (see also Step 8 in the section "Pre-filled refrigerant pipes
outdoor unit have been opened.
7. The air filter and the condensation drainage pipe have been properly installed.
8. Charged batteries of the size specified have been inserted correctly into the remote control.
9. The manual "AUTO/STOP" switch is set to the "RUN" position.

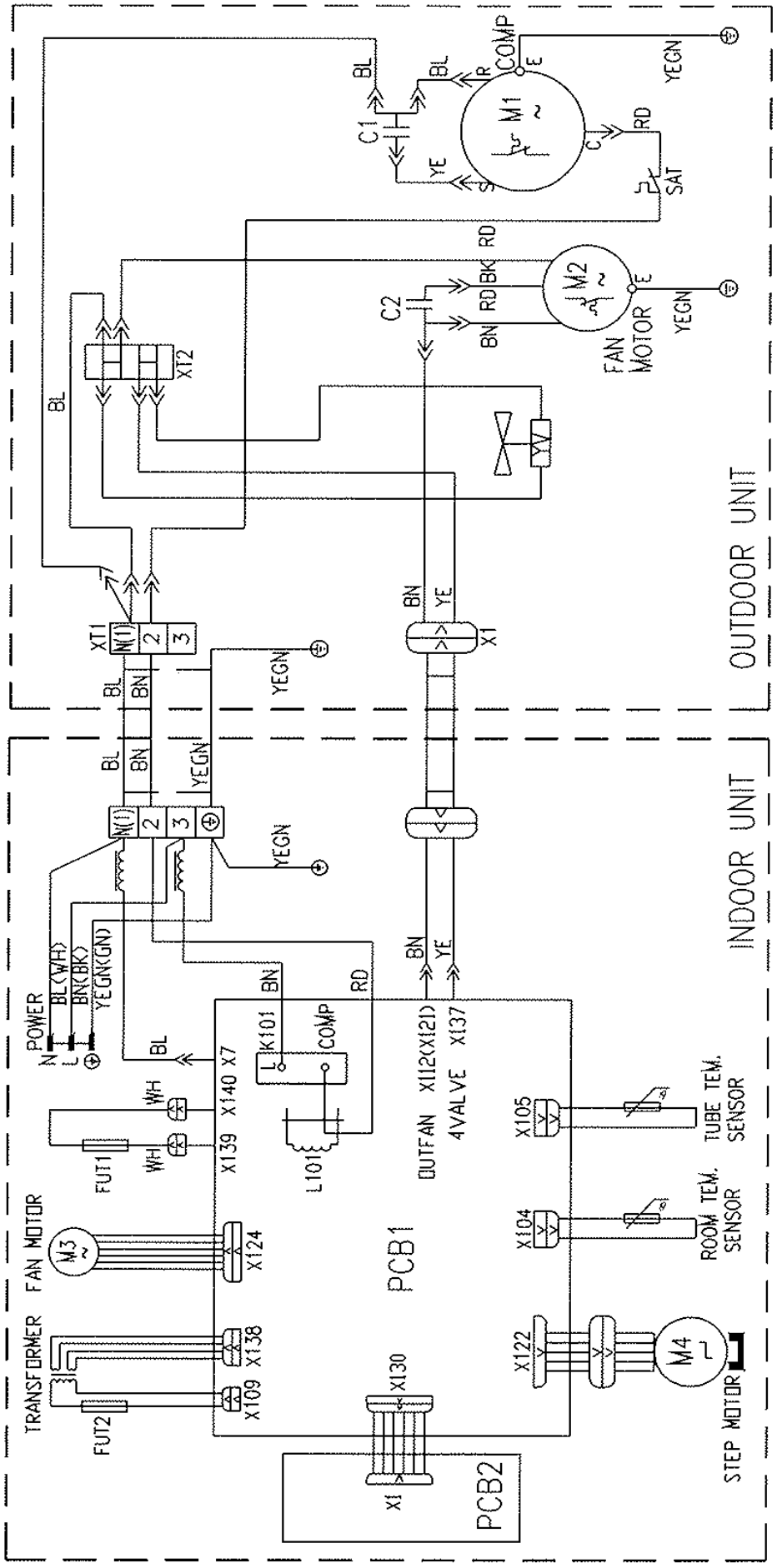
Function test

- Connect the device to the power supply and then operate the "ON/OFF" switch of the remote control ➜ the device should now switch on (usually in "AUTO operation" or in the operation mode set previously using the remote control).
- Using the remote control, test all operating modes (cooling, air recirculation, heating, dehumidifying) as far as ambient temperatures (remember operating limits) will allow. Please note when switching from one mode of operation to another that certain start-up times or pauses are functionally necessary.
- **If the device cannot be switched on using the remote control**
Switch the "AUTO/STOP" sliding switch on the indoor unit (first open the air inlet grid) to the AUTO setting ➜ the device should now switch to a mode of operation selected automatically (by the device) depending on ambient temperature and it should be possible to make other settings using the remote control. If this is not the case, please contact your after-sales service. The modes of operation can also be tested in the "TEST" position; if used, this setting should be changed after test operation and the **sliding switch** should be set to **AUTO.** (Permanent operation in the TEST setting leads to malfunctions!)
- **If the device starts up automatically when switched on and cannot be controlled using the remote control**
Set the AUTO/STOP switch on the indoor unit to "STOP". The device switches off. Then set the sliding switch to "AUTO" or "RUN" again. It should now be possible to set the device using the remote control; if this is not the case, please contact your after-sales service.

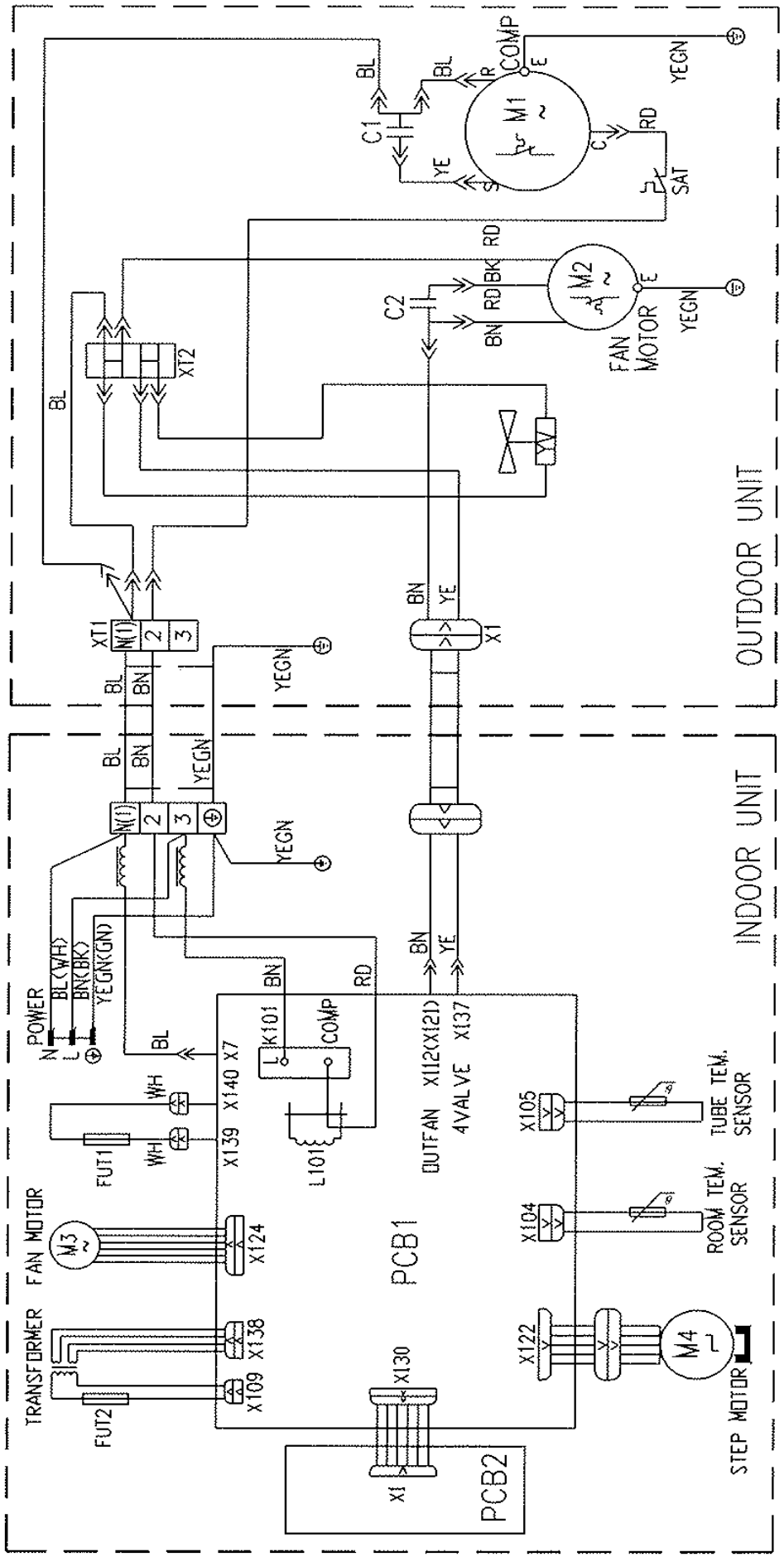
Refrigeration Plan



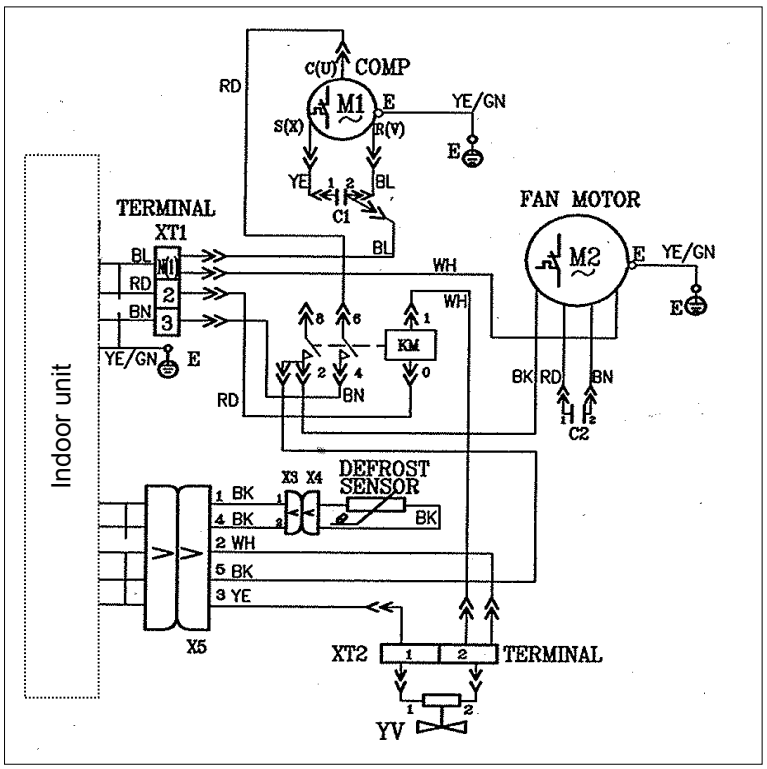
Circuit Diagrams



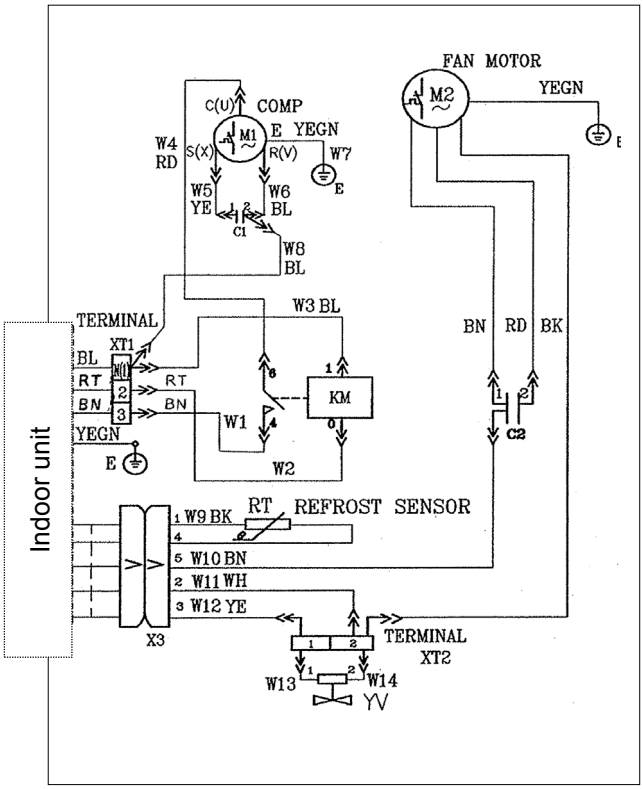
Circuit diagram KSS 2504



Circuit diagram KSS 3204

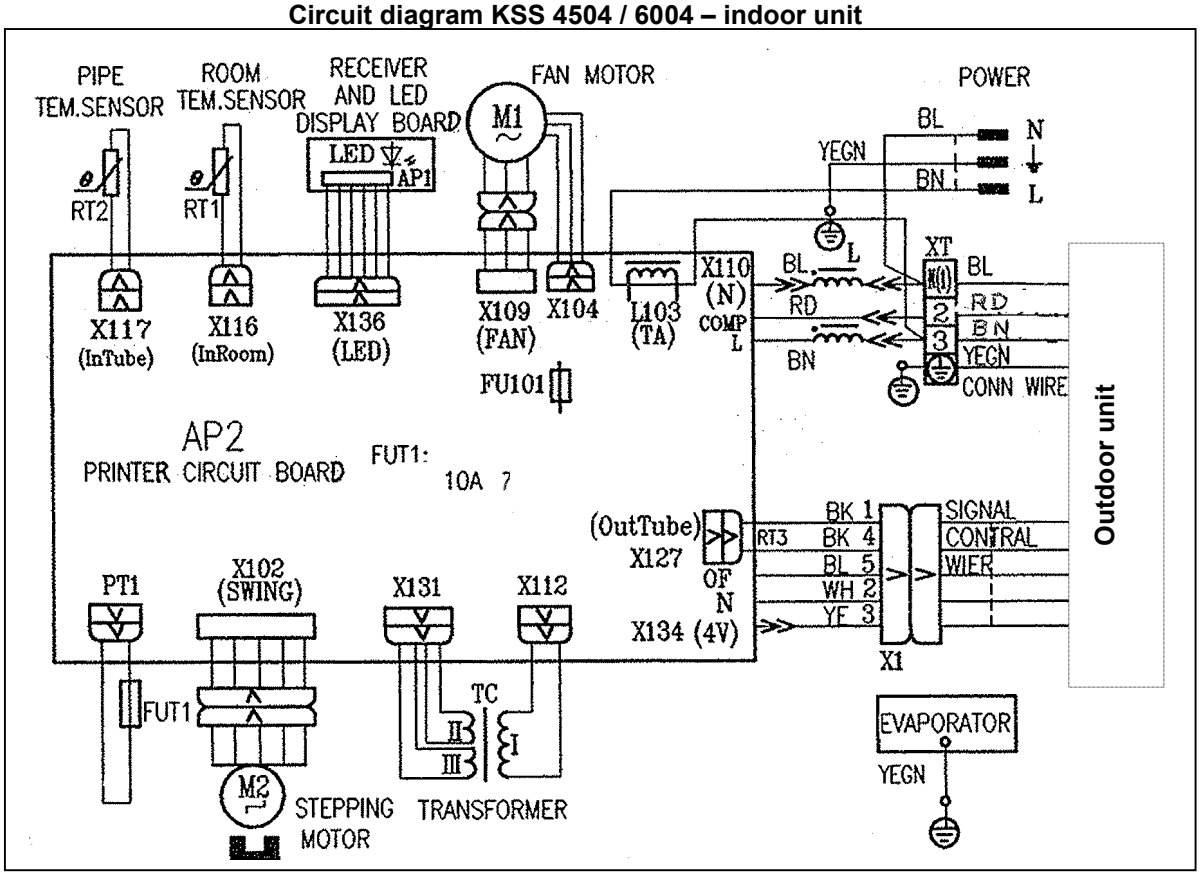


Circuit diagram KSS 4504 – outdoor unit



Circuit diagram KSS 6004 – outdoor unit

Circuit diagram KSS 4504 / 6004 – indoor unit



Important Notes on Operation

The room air conditioner may not be used for any purpose other than room cooling, heating or dehumidification or air circulation (fan).

Heating operation
The device operates with heat pump switching. Heat is extracted from the outside air, then led to the indoor unit and given off in the room to be heated.

Heat output reduces as the temperature of the outside air falls.
If the device is not providing sufficient heat for the room, we recommend operating it in combination with another heater.
Heat pump air conditioners circulate the warm air in order to heat the entire room. It therefore takes some time until the entire room is warm (also depends on the external temperature and the heating requirement).

Automatic de-icing
When external temperatures are low and air humidity is high, heating operation can cause the formation of ice on the outdoor unit which reduces the heat output. In this case, the device switches automatically to the “De-frost” operating mode for 10 – 15 minutes, heating is interrupted and the fans cease to operate.
An LED on the indoor unit blinks while the device is in “De-frost” mode.

When room and external temperatures are too high
When, in heating operation, both room and external temperatures are too high, the fan of the outdoor unit may switch off periodically (protective function).

Power cuts
After a power cut the devices commence operation again in the operating mode last set (with the temperature setting last stored). This occurs in cooling and dehumidifying mode with the normal delay at start (approx. 3 min.); in heating operation this restart phase can last up to 17 minutes. The settings of the air flow fins (SWING) can be lost through the power cut.

Permissible temperature and humidity ranges

Cooling	In the external temperature range device R 407 C: from approx. 0 °C to +43 °C device R410 A: from approx. -5 °C to +43 °C
	Outdoor humidity: approx. 40 to 80 %
	Room temperature range: device R 407 C: from approx. +16 °C to +30 °C device R 410 A: from approx. +16 °C to +30 °C
	Room humidity: approx. 40 to 80 % If the device is exposed to high humidity over a long period, condensation may form and drip down.
Dehumi-dification	External temperature: approx. 20 °C to 43 °C
	Outdoor humidity: approx. 40 to 80 %
	Room temperature range: approx. 20 °C to 30 °C
	Room humidity: approx. 40 to 80 % If the device is exposed to high humidity over a long period, condensation may form and drip down.
Heating	In the external temperature range device R 407 C: from approx. -7 °C to +43 °C device R410 A: from approx. -7 °C to +43 °C
	Outdoor humidity: approx. 40 to 80 %
	Room temperature range: device R 407 C: from approx. +16 °C to +30 °C device R 410 A: from approx. +16 °C to +30 °C
	Room humidity: approx. 40 to 80 % If the device is exposed to high humidity over a long period, condensation may form and drip down.

If the device is exposed to higher temperatures than those specified here, the automatic safety mechanism may be triggered and operation may be interrupted.

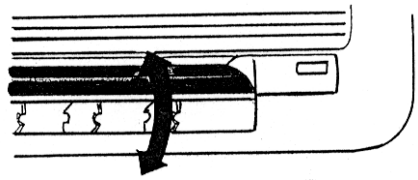
If the device is exposed to lower temperatures than those specified here, ice may form on the heat exchanger, which can cause water (condensation) to run out and lead to other functional defects.

➨ General notes on efficient operation:

- Windows and doors should not be kept open during air conditioning!
- Select the air direction best suited to your purpose (down for heating, up for cooling)!
- When cooling, the room temperature selected should not be more that 5 °C below the external temperature!

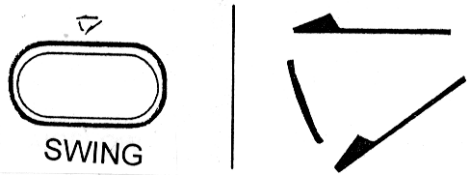
Direction of Air Flow

Up – down air flow
The direction of the air flow of the air conditioner switches constantly from up to down (swing operation).



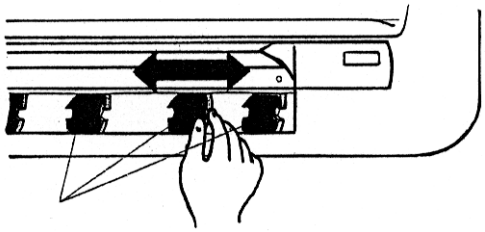
Swing operation can be turned on and off using the SWING switch.

The air flow can also be set to one direction.



Note:
When the device is switched off and then on again, swing operation is selected automatically.

Left – right air flow
Horizontal airflow must be set manually.



Note:
In operating modes cooling and dehumidifying, condensation can form on the airflow fins turned to the right or left and may possibly drip down. In this case, these settings should be used for a short time only.

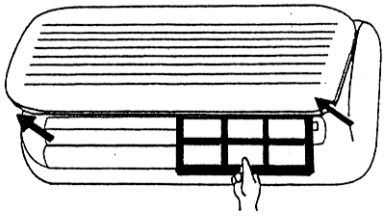
Special care must be taken with air conditioning for certain groups of persons, such as babies, toddlers, old or sick persons in order to avoid any danger to health.

Cleaning and Maintenance

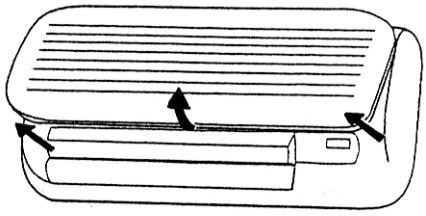
The device must be disconnected from the mains and allowed to cool down before cleaning and maintenance. Clean the surfaces of the casings with a soft damp cloth and then dry them. No scouring agents or polishes should be used.

Cleaning the air filters
Soiled filters reduce the airflow and thus the efficiency of the device. Soiled filters can also cause noise. The two filters should be checked at the beginning of the heating period and cleaned or changed as necessary. When the room air conditioner is used regularly, the filters should be cleaned at least once a month (the degree of soiling is dependent to a large extent on the place of use).

Take hold of the front cover of the indoor unit on both sides and flap it up until it clicks into an open position.



Press the filter up slightly, lift it up and remove it completely.



Clean the air filter with a vacuum cleaner.

If the filters are very soiled, they can also be cleaned with a neutral cleaning solution (lukewarm water). The air filter must be dried before it is reinserted.
It should then be reinserted the right way round and the front cover should be closed (reverse order from removal).

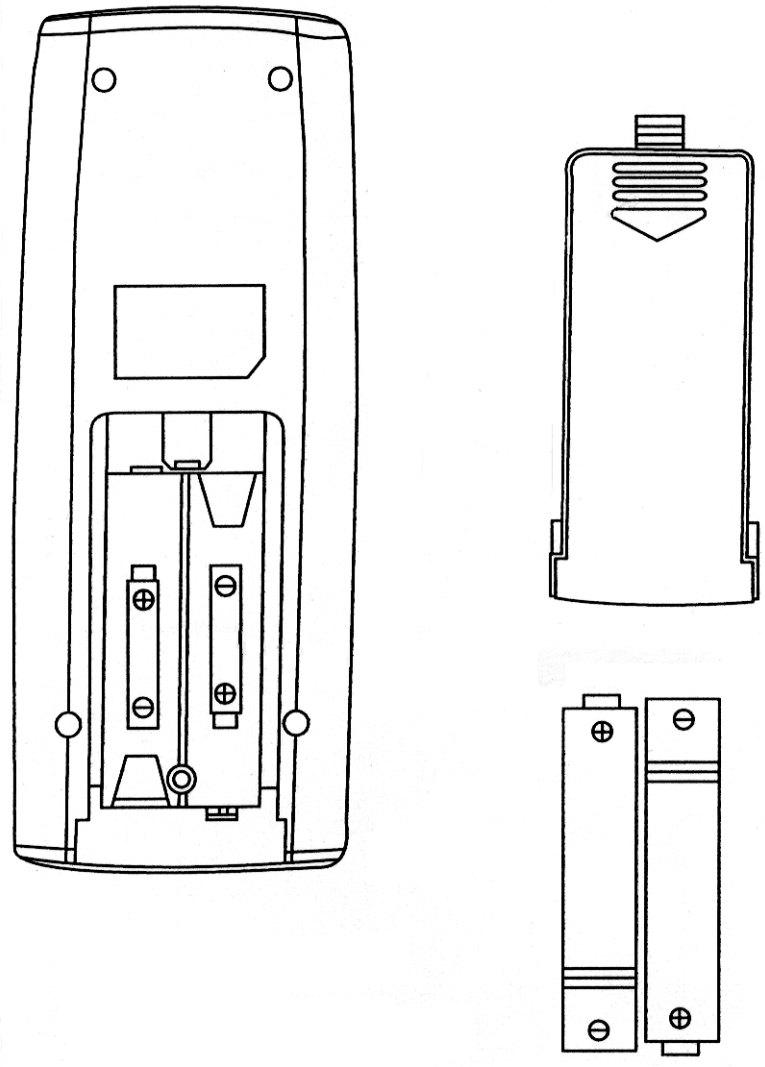
Optional filter elements (2 x approx. 300 x 50 mm antibacterial filter inserts) are not enclosed with the devices; they are available on request only.

Remote Control

Battery for Remote Control

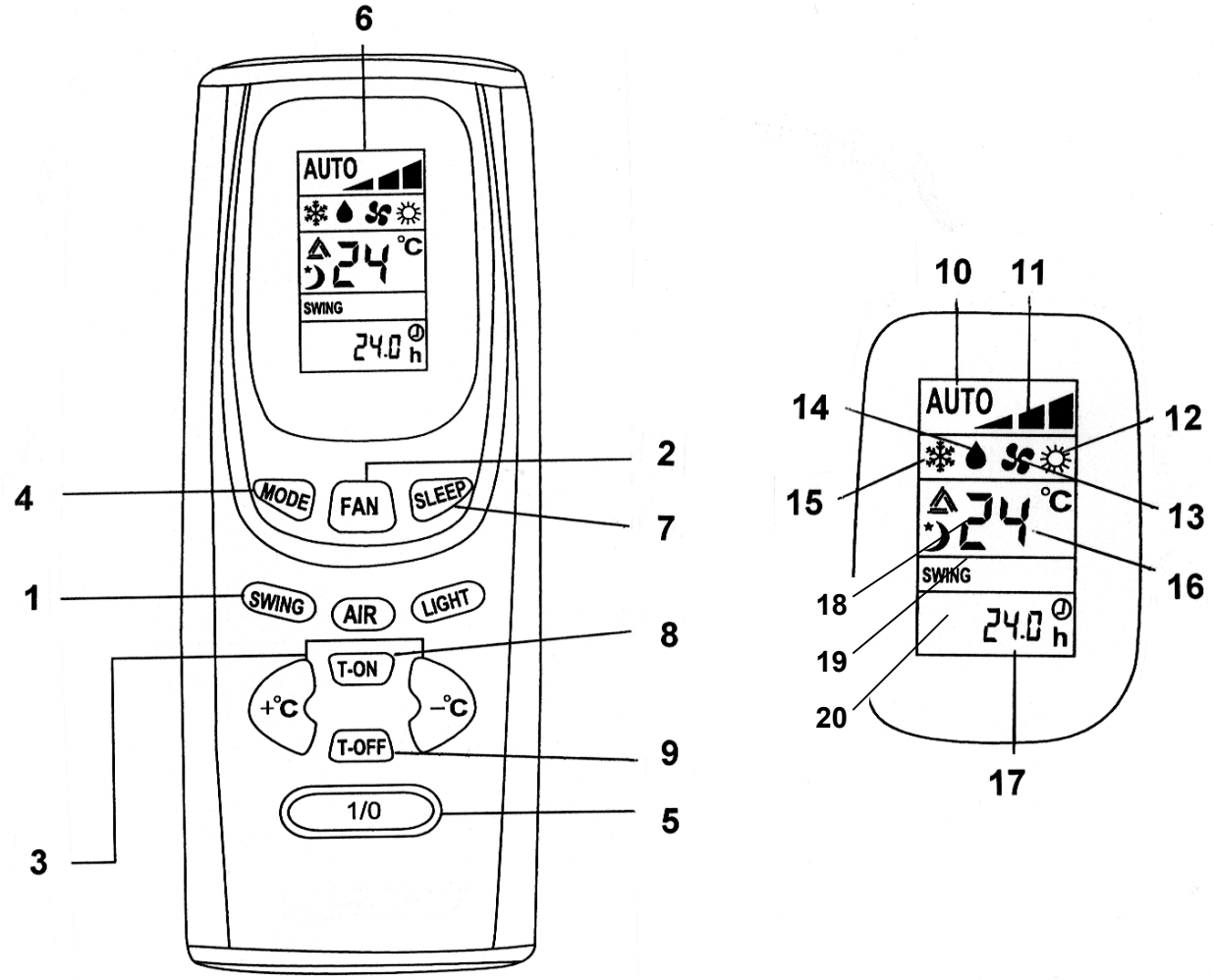
Remove the cover of the battery compartment.

Insert two 1.5 V batteries (type AAA), making sure that the polarity is correct! The polarity (+/-) is marked in the compartment. If no display appears after the batteries are inserted correctly or pressing the buttons of the remote control has no effect, please follow the instructions given in Section Start-Up / Function Test.



➨ Note:
- Use only charged batteries of the same type.
- Spent batteries must be removed, they can damage the remote control.
- Do not keep the remote control in the direct proximity of a TV set or other electrical appliances.
- Remove the batteries if the remote control is out of use for a longer period.

Functions of Remote Controls KSS 2504 / 3204 / 4504 / 6004



Remote control function keys

1. SWING key
   Sets the desired air outflow direction, automatic operation
2. FAN key
   Sets fan speed
3. +°C / -°C key
   Sets the desired room temperature
4. MODE key
   Selects the operating mode of the room air conditioner:
   Automatic – Cooling – Dehumidifying – Recirculating air – Heating
5. 1 / 0 key, also ON / OFF
   Switches the device on and off
6. Operating display
   Displays the various operating modes
7. SLEEP key
   Sleep mode
8. TIMER ON key
   Calls up timer settings (On)
9. TIMER OFF key
   Calls up timer settings (Off)

Remote control displays

10. AUTO display, automatic fan control
11. Fan speed display (1-3 manual)
12. Operating mode display, heating
13. Operating mode display, recirculating air
14. Operating mode display, dehumidification
15. Display, cooling
16. Display of temperature setting
17. Display of timer setting
18. Display of automatic operation
19. Display, SLEEP function set
20. Display, SWING operation

➨ **Note**: On this universal remote control the keys for which no description is given have no function, pressing them has no effect on the functioning of the device (even if a message appears in the display). The remote control shown here may be different from the one supplied with your device. The functions of the keys are the same, however.

Cooling

If the room temperature is higher than the temperature setting in the display, cooling is activated; if the room temperature is lower than the value set, cooling is terminated. The fan function (without active cooling) of the indoor unit remains in operation.
A temperature between 16 °C and 30 °C can be selected.

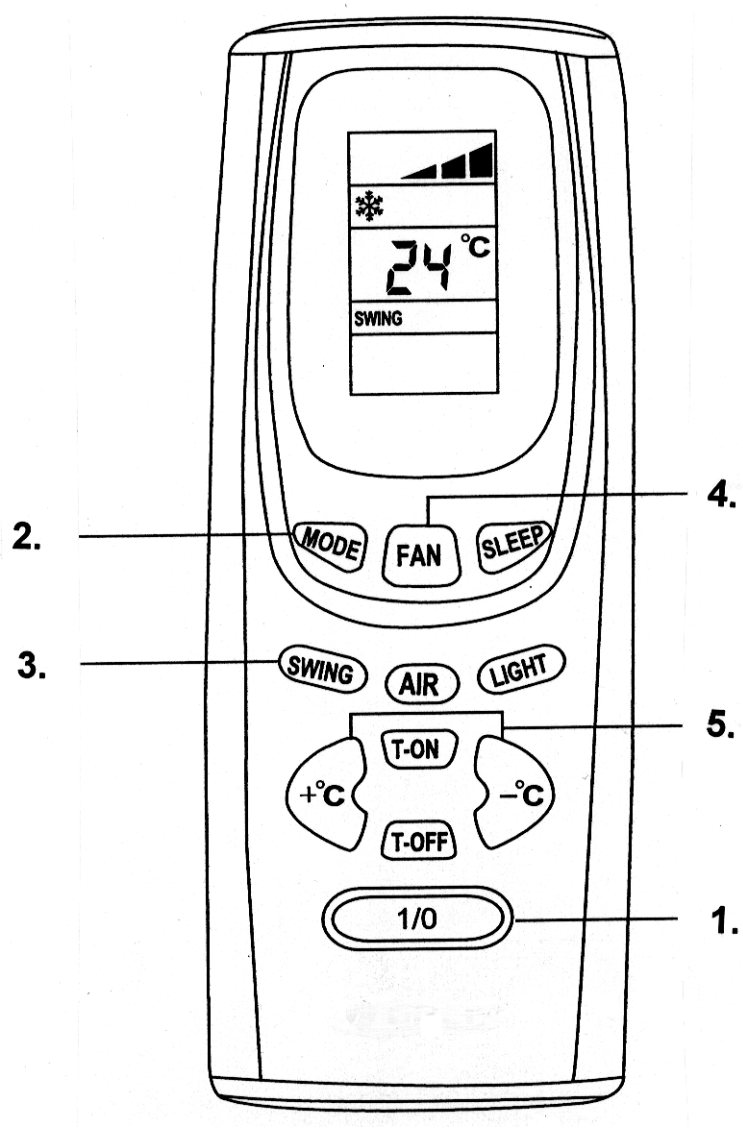
1. Press the 1 / 0 key.

2. Select “Cooling” with the MODE key.

3. Set the airflow fins (they determine the outflow direction of the air) by pressing the SWING key.

4. Fan speed (air volume) is set by pressing the FAN key (fan speed (air volume) is regulated automatically in Autofan mode).

5. Set the desired temperature using the +/- (or +°C / -°C) keys.



Heating

If the room temperature is lower than the temperature set in the display, heating is activated. If the room temperature is higher than the value set, heating operation terminates; the passive air recirculation of the room unit remains in operation for about a minute; the direction of the air outflow fins may change.
A temperature between 16 °C and 30 °C can be selected.

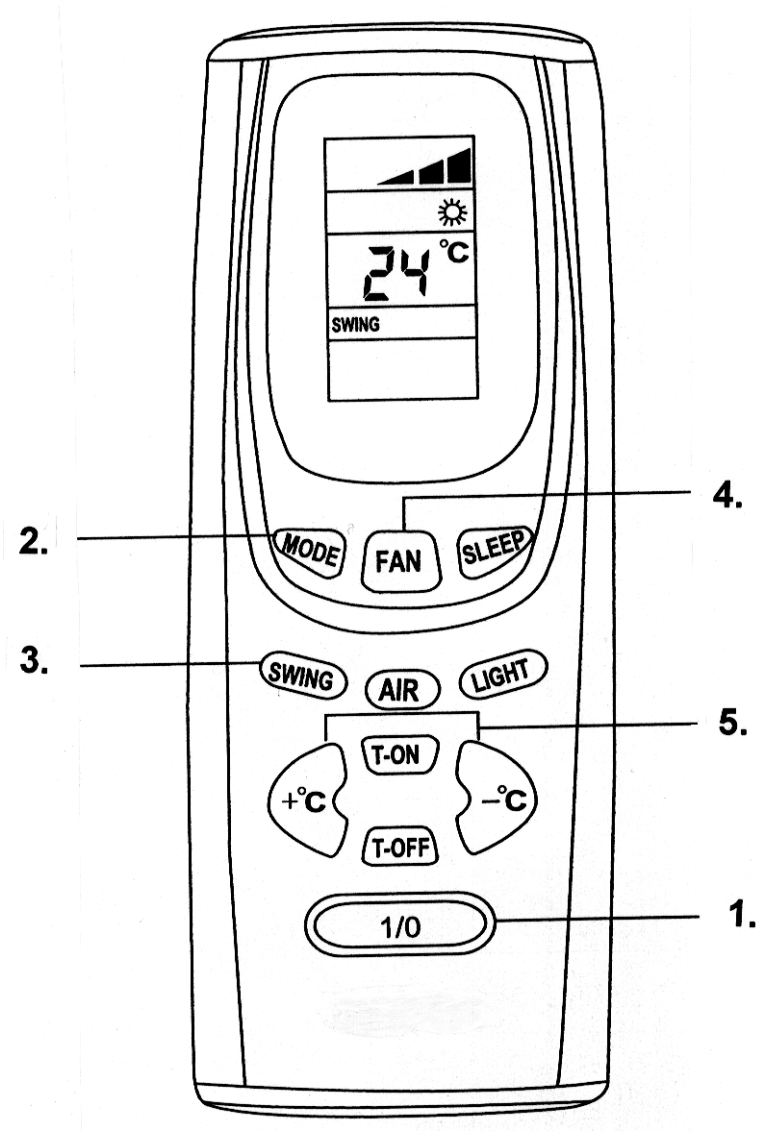
1. Press the 1 / 0 key.

2. Select “Heating” with the MODE key.

3. Set the airflow fins (they determine the outflow direction of the air) by pressing the SWING key.

4. Fan speed (air volume) is set by pressing the FAN key (fan speed (air volume) is regulated automatically in Autofan mode).

5. Set the desired temperatures using the +/- (or +°C / -°C) keys.



Dehumidification

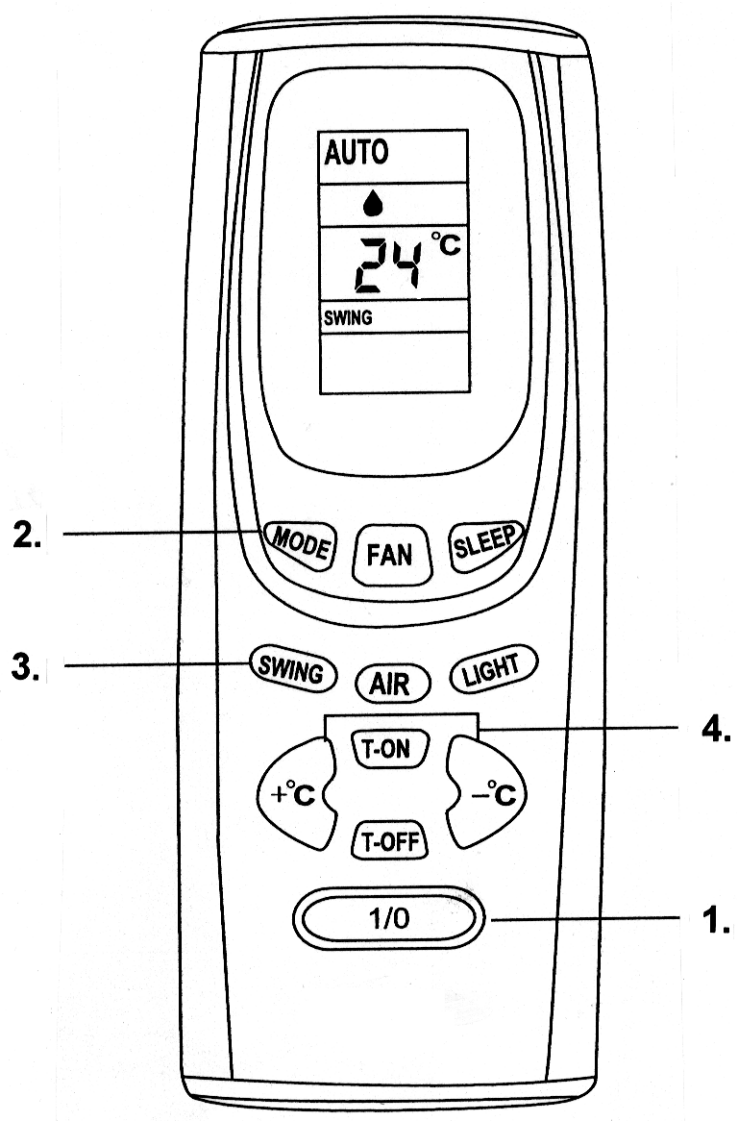
If the room temperature falls to **more than 2 °C below** the value set, the fan in the indoor and outdoor compartments stops. At room temperatures of ± 2 °C above or below the temperature set, the device switches to dehumidification mode. If room temperature rises to **more than 2 °C above** the temperature set, the device switches to cooling mode.
A temperature between 16 °C and 30 °C can be selected. In dehumidification mode the device operates on AUTOFAN.

1. Press the 1 / 0 key.

2. Select “Dehumidification” with the MODE key.

3. Set the airflow fins (they determine the outflow direction of the air) by pressing the SWING key.

4. Set the desired temperatures using the +/- (or +°C / -°C) keys.



Auto

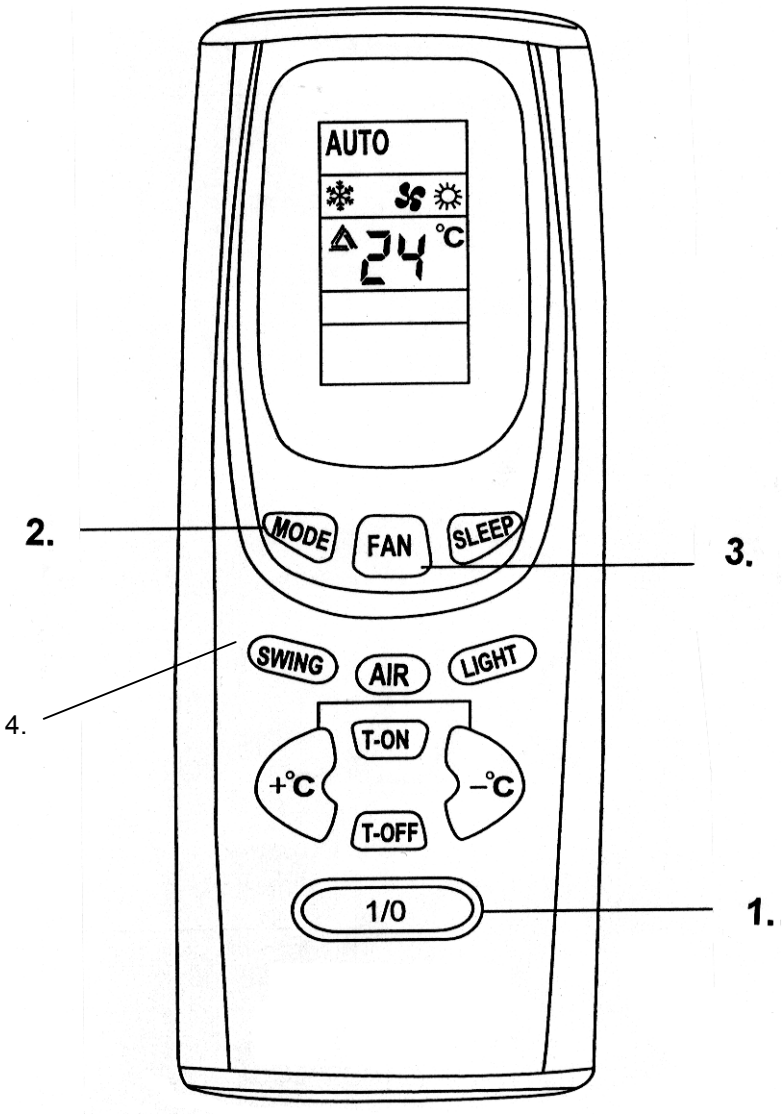
In Auto mode, the air conditioner operates with pre-set, fixed temperatures for the cooling and heating modes. At room temperatures **over 25 °C,** the device switches to **cooling operation,** and at room temperatures **below 20 °C,** it switches to **heating operation.**
Depending on room temperature and humidity, the device may switch periodically in Auto mode to dehumidification for more effective process control.

1. Press the 1 / 0 key.

2. Select “AUTO” with the MODE key.

3. Fan speed (air volume) is set by pressing the FAN key (fan speed (air volume) is regulated automatically in Autofan mode).

4. Set the airflow fins (they determine the outflow direction of the air) by pressing the SWING key.



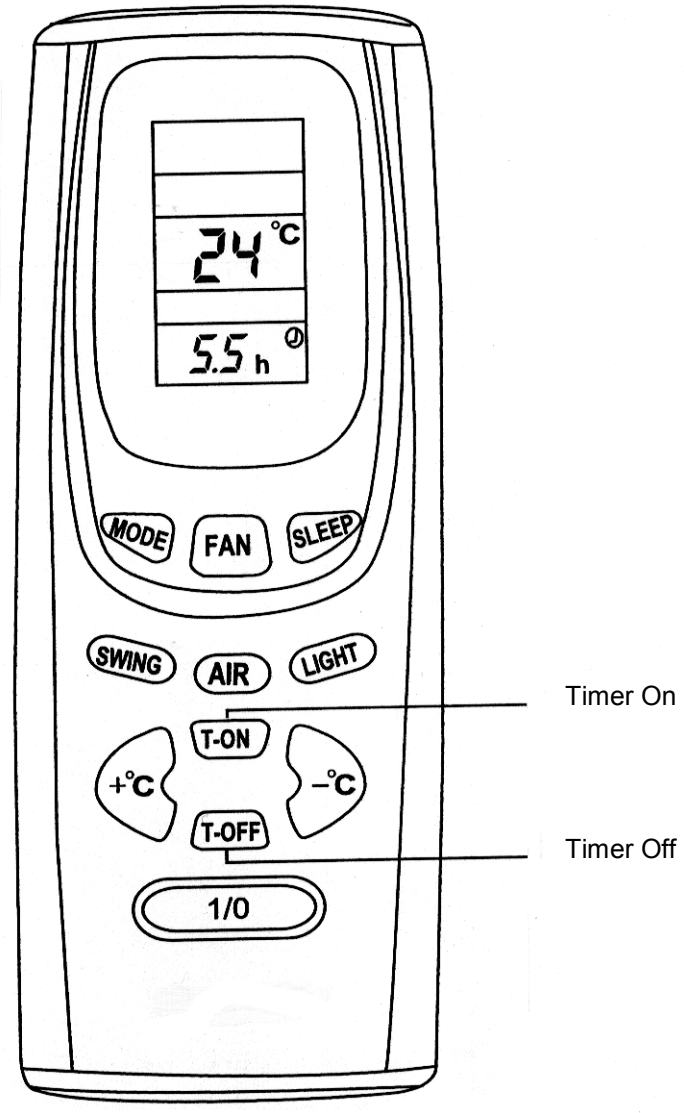
Timer Function

Timer On: This function should[*1] be programmed only when the device is non-operational.

Pressing the key once sets a period of 30 minutes until the device switches on (in the mode currently programmed). Every further press of the key extends the time before the device is switched on by a further 30 min. up to a maximum of 24 h before automatic switch-on.

Timer Out: This function can be programmed only when the device is in operation.
Pressing the key once sets an interval of 30 min. until the device switches itself off. Every further press of the key extends the time before the device is switched off by a further 30 min. up to a maximum of 24 h before automatic switch-off.

➨ Note: It is not possible to change any settings during operation started by the timer; to make changes the device must be switched off and then on again.

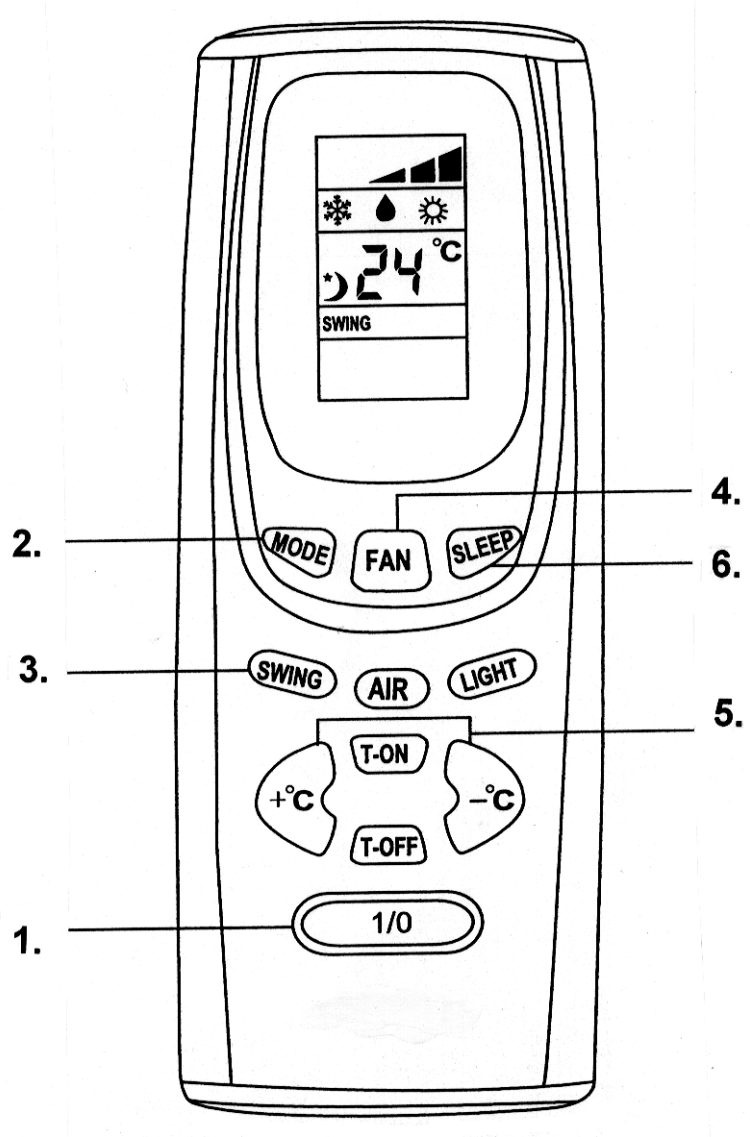


(*[1] An operational device will be switched off by this command and switched on again after the programmed delay)

Sleep Function

Depending on the operating mode, pressing the SLEEP key changes the temperature set by 1 °C every hour for a maximum of two hours (i.e. a maximum of 2 °C in 2 h), starting at the time the key was pressed. In cooling and dehumidification modes, the temperature is increased, and in heating mode, the temperature is lowered. Pressing the SLEEP key again switches this mode off.

1. Press 1 / 0 (if the device is switched off).
2. Select the function Cooling, Dehumidification or Heating.
3. Set airflow direction by pressing the SWING key.
4. Set fan speed (air volume) by pressing the FAN key.
5. Set the desired temperatures using the +/- (or +°C / -°C) keys.
6. Press the SLEEP key.



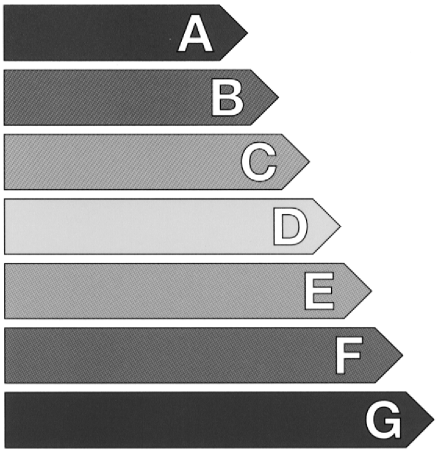
Faults

If a fault occurs (e.g. inadequate performance, smoke formation, unusual smell, loud noise, frequent cut-outs, electrical connections overheating), the air conditioner should be switched off and disconnected immediately (switch off the circuit breaker in the distribution cabinet, or pull out the plug).
Contact the after-sales service.

Before you contact the after-sales service, however, please use the list below to check whether this could be a normal occurrence or a fault you can remedy yourself.

Type of fault	Possible causes
Device does not switch on immediately	➢ If the device is switched off and then on again immediately, a safety function prevents it operating for about 3 minutes (compressor safety function). ➢ If the device is disconnected from the power supply and then connected again immediately, a safety function prevents it operating for about 3 minutes (compressor safety function). ➢ A delay of up to 17 minutes can occur before the heating function starts or warm air begins to circulate (e.g. when the operating mode is changed or there is a power cut when in heating mode).
Noises	➢ Noises caused by the flow of the refrigerant through the pipes can sometimes be heard during operation. These noises tend to occur particularly during the first two to three minutes after switching on or off. ➢ Temperature fluctuations cause expansion and contraction, which can also produce noises.
Smells	➢ The air emitted by the indoor unit may carry various smells already present in the room (e.g. cooking smells, tobacco, new furniture, etc.). Because the air-conditioned air is emitted at a higher speed, the smells can be perceived as more intensive.
Emission of steam or vapour	➢ Slight vapour formation may be visible at the device during cooling or dehumidification. This is the result of the sudden cooling of the air in the room and soon disappears.
Device is not working	➢ Is it connected to the mains power supply? Has a fuse blown? Have the operating limits been exceeded? ➢ Has there been a power cut? Are the batteries in the remote control flat?
It is not possible to change the settings (during operation)	➢ The device was activated using the TIMER function, to make changes, switch it off and then on again.
Inadequate cooling or heating	➢ Do the air filters need cleaning? ➢ Are the device's inlet and outlet vents covered or clogged with dirt? ➢ Have additional sources of heat been switched on? (Cooling mode only.) ➢ Are the room temperature settings appropriate? ➢ Are doors and windows open in the room to be cooled / heated? ➢ Has the fan been set to maximum speed (air volume)? ➢ Are there large areas of glass (windows) which are letting in direct sunshine (draw curtains)? (Cooling mode only.)

Energy Efficiency

Energy		**Room air conditioner**			
Manufacturer:		Dimplex	Dimplex	Dimplex	Dimplex
Outdoor unit		KSS 2504A A	KSS 3204A A	KSS 4504C A	KSS 6004C A
Indoor unit		KSS 2504A I	KSS 3204A I	KSS 4504C I	KSS 6004C I
Low energy consumption					
		A	B	D	D
High energy consumption					
Annual energy consumption kWh in cooling mode (Actual consumption depends on usage of the device and cooling conditions)		**395**	**545**	**875**	**1150**
Cooling capacity	**kW**	**2.50**	**3.20**	**4.50**	**6.00**
Energy efficiency value At full load (the higher the better)		**3.20**	**3.00**	**2.57**	**2.60**
Type Cooling function only	-				
Cooling function / heating function	-	Yes	Yes	Yes	Yes
Air cooling	-	Yes	Yes	Yes	Yes
Water cooling	-				
Heat output	**kW**	**2.80**	**3.50**	**5.20**	**6.50**
Energy efficiency class of heating function A: low energy consumption G: high energy consumption		**D**	**D**	**D**	**D**
Noise dB(A) re 1 pW		Data for KSS 25204	Data for KSS 3204	Data for KSS 4504	Data for KSS 6004

The brochures include a data sheet with further information on the devices

Standard EN 14511
Room air conditioner
Energy Labelling Directive 200/31/EC

Warranty

Authorised dealers can provide information on the terms and conditions of warranty. The warranty is not valid without a sales receipt marked with the date of purchase.

Disposal notice

The product must not be disposed of with your other household waste